U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

PB-280 140

Distribution of Phytoplankton in Ohio Lakes

Environmental Monitoring and Support Lab, Las Vegas, Nev

Jan 78

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO. EPA-600/3-78-015	2.
3. RECIPIENT'S ACCESSION NO. PB280140	
4. TITLE AND SUBTITLE DISTRIBUTION OF PHYTOPLANKTON IN OHIO LAKES	5. REPORT DATE January 1978
	6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S) J.W. Hilgert, V.W. Lambou, F.A. Morris, M.K. Morris, L.R. Williams, W.D. Taylor, F.A. Hiatt, S.C. Hern	8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS Environmental Monitoring and Support Laboratory Office of Research and Development U.S. Environmental Protection Agency Las Vegas, NV 89114	10. PROGRAM ELEMENT NO. 1BA608
	11. CONTRACT/GRANT NO.
12. SPONSORING AGENCY NAME AND ADDRESS U.S. Environmental Protection Agency-Las Vegas, NV Office of Research and Development Environmental Monitoring and Support Laboratory Las Vegas, NV 89114	13. TYPE OF REPORT AND PERIOD COVERED 03-07-73 to 11-14-73
	14. SPONSORING AGENCY CODE EPA/600/07

15. SUPPLEMENTARY NOTES
Previously released in limited distribution as No. 688 in the Working Paper Series for the National Eutrophication Survey.

16. ABSTRACT

This a data report presenting the species and abundance of phytoplankton in the 20 lakes sampled by the National Eutrophication Survey in the State of Ohio. Results from the calculation of several water quality indices are also included (Nygaard's Trophic State Index, Palmer's Organic Pollution Index, and species diversity and abundance indices).

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
*aquatic microbiology lakes *phytoplankton water quality	Ohio lake eutrophication Nygaard's trophic indices Palmer's organic pollution indices Species diversity and abundance indices	06 C, M 08 H 13 B

18. DISTRIBUTION STATEMENT RELEASE TO PUBLIC	19. SECURITY CLASS (This Report) UNCLASSIFIED	21. NO. OF PAGES 102
	20. SECURITY CLASS (This page) UNCLASSIFIED	22. PRICE A06 - A01

EPA Form 2220-1 (9-73)

☆U.S. GOVERNMENT PRINTING OFFICE: 1978 - 785-506/1902-M, 1126, 9-I

PB 280 140

EPA-600/3-78-015
January 1978

Ecological Research Series

DISTRIBUTION OF PHYTOPLANKTON IN OHIO LAKES

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EPA-600/3-78-015
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DISTRIBUTION OF PHYTOPLANKTON IN OHIO LAKES

by

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FOREWORD

Protection of the environment requires effective regulatory actions which are based on sound technical and scientific information. This information must include the quantitative description and linking of pollutant sources, transport mechanisms, interactions, and resulting effects on man and his environment. Because of the complexities involved, assessment of specific pollutants in the environment requires a total systems approach which transcends the media of air, water, and land. The Environmental Monitoring and Support Laboratory-Las Vegas contributes to the formation and enhancement of a sound integrated monitoring data base through multidisciplinary, multimedia programs designed to:

- develop and optimize systems and strategies for monitoring pollutants and their impact on the environment
- demonstrate new monitoring systems and technologies by applying them to fulfill special monitoring needs of the Agency's operating programs

This report presents the species and abundance of phytoplankton in the 20 lakes sampled by the National Eutrophication Survey in the State of Ohio, along with results from the calculation of several commonly used biological indices of water quality and community structure. These data can be used to biologically characterize the study lakes, and as baseline data for future investigations. This report was written for use by Federal, State, and local governmental agencies concerned with water quality analysis, monitoring, and/or regulation. Private industry and individuals similarly involved with the biological aspects of water quality will find the document useful. For further information contact the Water and Land Quality Branch, Monitoring Operations Division.

George B. Morgan
Director
Environmental Monitoring and Support Laboratory
Las Vegas

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INTRODUCTION

The collection and analysis of phytoplankton data were included in the National Eutrophication Survey in an effort to determine relationships between algal characteristics and trophic status of individual lakes.

During spring, summer, and fall of 1973, the Survey sampled 250 lakes in 17 States. Over 700 algal species and varieties were identified and enumerated from the 743 water samples examined.

This report presents the species and abundance of phytoplankton in the 20 lakes sampled in the State of Ohio (Table 1). The Nygaard's Trophic State (Nygaard 1949), Palmer's Organic Pollution (Palmer 1969), and species diversity and abundance indices are also included.

TABLE 1. LAKES SAMPLED IN THE STATE OF OHIO

STORET #	LAKE NAME	COUNTY
3901	Beach City Reservoir	Stark, Tuscarawas
3902	Buckeye Reservoir	Fairfield, Licking, Perry
3905	Charles Mill Reservoir	Richland, Ashland
3906	Deer Creek Reservoir	Fayette, Pickaway
3907	Delaware Reservoir	Delaware
3908	Dillion Reservoir	Muskingum
3912	Grant Lake	Brown
3914	Hoover Reservoir	Franklin, Delaware
3915	Indian Lake	Logan
3917	Loramie Lake	Shelby, Auglaize
3921	Mosquito Creek Reservoir	Trumbull
3924	Pleasant Hill Lake	Richland, Ashland
3927	Lake Saint Marys (Grant Lake)	Mercer, Auglaize

TABLE 1. LAKES SAMPLED IN THE STATE OF OHIO (Continued)

STORET #	LAKE NAME	COUNTY
3928	Atwood Reservoir	Carroll, Tuscarawas
3929	Berlin Reservoir	Stark, Portage, Mahoning
3930	Holiday Lake	Huron
3931	O'Shaugnessy Reservoir	Delaware
3932	Rocky Fork Lake	Highland
3933	Shawnee Lake	Greene
3934	Tappan Lake	Harrison

MATERIALS AND METHODS

LAKE AND SITE SELECTION

Lakes and reservoirs included in the Survey were selected through discussions with State water pollution agency personnel and U.S. Environmental Protection Agency Regional Offices (U.S. Environmental Protection Agency 1975). Screening and selection strongly emphasized lakes with actual or potential accelerated eutrophication problems. As a result, the selection was limited to lakes:

(1) impacted by one or more municipal sewage treatment plant outfalls either directly into the lake or by discharge to an inlet tributary within approximately 40 kilometers of the lake;

(2) 40 hectares or larger in size; and

(3) with a mean hydraulic retention time of at least 30 days.

Specific selection criteria were waived for some lakes of particular State interest.

Sampling sites for a lake were selected based on available information on lake morphometry, potential major sources of nutrient input, and on-site judgment of the field limnologist (U.S. Environmental Protection Agency 1975). Primary sampling sites were chosen to reflect the deepest portion of each major basin in a test lake. Where many basins were present, selection was guided by nutrient source information on hand. At each sampling site, a depth-integrated phytoplankton sample was taken. Depth-integrated samples were uniform mixtures of water from the surface to a depth of 15 feet (4.6 meters) or from the surface to the lower limit of the photic zone representing 1 percent of the incident light, whichever was greater. If the depth at the sampling site was less than 15 feet (4.6 meters), the sample was taken from just off the bottom to the surface. Normally, a lake was sampled three times in 1 year, providing information on spring, summer, and fall conditions.

SAMPLE PREPARATION

Four milliliters (ml) of Acid-Lugol's solution (Prescott 1970) were added to each 130-ml sample from each site at the time of collection for preservation. The samples were shipped to the Environmental Monitoring and Support Laboratory, Las Vegas, Nevada, where equal volumes from each site were mixed to form two 130-ml composite samples for a given lake. One composite sample was put into storage and the other was used for the examination.

Prior to examination, the composite samples were concentrated by the settling method. Solids were allowed to settle for at least 24 hours prior to siphoning off the supernate. The volume of the removed supernate and the volume of the remaining concentrate were measured and concentrations determined. A small (8 ml) library subsample of the concentrate was then taken. The remaining concentrate was gently agitated to resuspend the plankton and poured into a capped, graduated test tube. If a preliminary examination of a sample indicated the need for a more concentrated sample, the contents of the test tube were further concentrated by repeating the settling method. Final concentrations varied from 15 to 40 times the original.

Permanent slides were prepared from concentrated samples after analysis was complete. A drop of superconcentrate from the bottom of the test tube was placed in a ring of clear Karo® Corn Syrup with phenol (a few crystals of phenol were added to each 100 ml of syrup) on a glass slide, thoroughly mixed, and topped with a coverglass. After the syrup at the edges of the coverglass had hardened, the excess was scraped away and the mount was sealed with clear fingernail polish. Permanent diatom slides were prepared by drying sample material on a coverglass, heating in a muffle furnace at 400° C for 45 minutes, and mounting in Hyrax®. Finally, the mounts were sealed with clear fingernail polish.

Backup samples, library samples, permanent sample slides, and Hyrax®-mounted diatom slides are being stored and maintained at the U.S. Environmental Monitoring and Support Laboratory-Las Vegas.

EXAMINATION

The phytoplankton samples were examined with the aid of binocular compound microscopes. A preliminary examination was performed to precisely identify and list all forms encountered. The length of this examination varied depending on the complexity of the sample. An attempt was made to find and identify all of the forms present in each sample. Often forms were observed which could not be identified to species or to genus. Abbreviated descriptions were used to keep a record of these forms (e.g., lunate cell, blue-green filament, Navicula #1). Diatom slides were examined using a standard light microscope. If greater resolution was essential to accurately identify the diatoms, a phase-contrast microscope was used.

After the species list was compiled, phytoplankton were enumerated using a Neubauer Counting Chamber with a 40X objective lens and a 10X ocular lens. All forms within each field were counted. The count was continued until a minimum of 100 fields had been viewed, or until the dominant form had been observed a minimum of 100 times.

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QUALITY CONTROL

Internal quality control checks on species identifications and counts were performed on a regular basis between project phycologists at the rate of 7 percent. Although an individual had primary responsibility for analyzing a sample, taxonomic problems were discussed among the phycologists.

Additional quality control checks were performed on the Survey samples by Dr. G. W. Prescott of the University of Montana at the rate of 5 percent. Quality control checks were made on 75 percent of these samples to verify species identifications while checks were made on the remaining 25 percent of the samples to verify genus counts. Presently, the agreement between quality control checks for species identification and genus enumerations is satisfactory.

RESULTS

The Appendix summarizes all of the phytoplankton data collected from the State by the Survey. It is organized by lake, including an alphabetical phytoplankton species list with concentrations for individual species given by sampling date. Results from the application of several indices are presented (Nygaard's Trophic State, Palmer's Organic Pollution, and species diversity and abundance). Each lake has been assigned a four digit STORET number. [STORET (STOrage and RETrieval) is the U.S. Environmental Protection Agency's computer system which processes and maintains water quality data.] The first two digits of the STORET number identify the State; the last two digits identify the lake.

NYGAARD'S TROPHIC STATE INDICES

Five indices devised by Nygaard (1949) were proposed under the assumption that certain algal groups are indicative of levels of nutrient enrichment. These indices were calculated in order to aid in determining the surveyed lakes' trophic status. As a general rule, Cyanophyta, Euglenophyta, centric diatoms, and members of the Chlorococcales are found in waters that are eutrophic (rich in nutrients), while desmids and many pennate diatoms generally cannot tolerate high nutrient levels and so are found in oligotrophic waters (poor in nutrients).

In applying the indices to the Survey data, the number of taxa in each major group was determined from the species list for each sample. The ratios of these groups give numerical values which can be used as a biological index of water richness. The five indices and the ranges of values established for Danish lakes by Nygaard for each trophic state are presented in Table 2. The appropriate symbol, (E) eutrophic and (O) oligotrophic, follows each calculated value in the tables in the Appendix. A question mark (?) was entered in these tables when the calculated value was within the range of both classifications.

PALMER'S ORGANIC POLLUTION INDICES

Palmer (1969) analyzed reports from 165 authors and developed algal pollution indices for use in rating water samples with high organic pollution. Two lists of organic pollution-tolerant forms were prepared, one containing 20 genera, the other, 20 species (Tables 3 and 4). Each form was assigned a pollution index number ranging from 1 for moderately tolerant forms to 6 for extremely tolerant forms. Palmer based the index numbers on occurrence records and/or where emphasized by the authors as being especially tolerant of organic pollution.

TABLE 2. NYGAARD'S TROPHIC STATE INDICES ADAPTED FROM HUTCHINSON (1967)

Index	Calculation	Oligotrophic	Eutrophic
Myxophycean	$\frac{\text{Myxophyceae}}{\text{Desmideae}}$	0.0-0.4	0.1-3.0
Chlorophycean	$\frac{\text{Chlorococcales}}{\text{Desmideae}}$	0.0-0.7	0.2-9.0
Diatom	$\frac{\text{Centric Diatoms}}{\text{Pennate Diatoms}}$	0.0-0.3	0.0-1.75
Euglenophyte	$\frac{\text{Euglenophyta}}{\text{Myxophyceae + Chlorococcales}}$	0.0-0.3	0.0-1.0
Compound	$\frac{\text{Myxophyceae + Chlorococcales + Centric Diatoms + Euglenophyta}}{\text{Desmideae}}$	0.0-1.0	1.2-25

TABLE 3. ALGAL GENUS POLLUTION INDEX (Palmer 1969)

Genus	Pollution Index
Anacystis	1
Ankistrodesmus	2
Chlamydomonas	4
Chlorella	3
Closterium	1
Cyclotella	1
Euglena	5
Gomphonema	1
Lepocinclis	1
Melosira	1
Micractinium	1
Navicula	3
Nitzschia	3
Oscillatoria	5
Pandorina	1
Phacus	2
Phormidium	1
Scenedesmus	4
Stigeoclonium	2
Synedra	2

TABLE 4. ALGAL SPECIES POLLUTION INDEX (Palmer 1969)

Species	Pollution Index
Ankistrodesmus falcatus	3
Arthrospira jenneri	2
Chlorella vulgaris	2
Cyclotella meneghiniana	2
Euglena gracilis	1
Euglena viridis	6
Gomphonema parvulum	1
Melosira varians	2
Navicula cryptocephala	1
Nitzschia acicularis	1
Nitzschia palea	5
Oscillatoria chlorina	2
Oscillatoria limosa	4
Oscillatoria princeps	1
Oscillatoria putrida	1
Oscillatoria tenuis	4
Pandorina morum	3
Scenedesmus quadricauda	4
Stigeoclonium tenue	3
Syndra ulna	3

In analyzing a water sample, any of the 20 genera or species of algae present in concentrations of 50 per milliliter or more are recorded. The pollution index numbers of the algae present are totaled, providing a genus score and a species score. Palmer determined that a score of 20 or more for either index can be taken as evidence of high organic pollution, while a score of 15 to 19 is taken as probable evidence of high organic pollution. Lower figures suggest that the organic pollution of the sample is not high, that the sample is not representative, or that some substance or factor interfering with algal persistence is present and active.

SPECIES DIVERSITY AND ABUNDANCE INDICES

"Information content" of biological samples is being used commonly by biologists as a measure of diversity. Diversity in this connection means the degree of uncertainty attached to the specific identity of any randomly selected individual. The greater the number of taxa and the more equal their proportions, the greater the uncertainty, and hence, the diversity (Pielou 1966). There are several methods of measuring diversity, e.g., the formulas given by Brillouin (1962) and Shannon and Weaver (1963). The method which is appropriate depends on the type of biological sample on hand.

Pielou (1966) classifies the types of biological samples and gives the measure of diversity appropriate for each type. The Survey phytoplankton samples are what she classifies as larger samples (collections in Pielou's terminology) from which random subsamples can be drawn. According to Pielou, the average diversity per individual for these types of samples can be estimated from the Shannon-Wiener formula (Shannon and Weaver 1963):

$$H = -\sum_{i=1}^{S} P_i \log_x P_i$$

where P is the proportion of the ith taxon in the sample, which is calculated from n_i/N; n_i is the number of individuals per milliliter of the ith taxon; N is the total number of individuals per ml; and S is the total number of taxa.

However, Basharin (1959) and Pielou (1966) have pointed out that H calculated from the subsample is a biased estimator of the sample H, and if this bias is to be accounted for, we must know the total number of taxa present in the sample since the magnitude of this bias depends on it.

Pielou (1966) suggests that if the number of taxa in the subsample falls only slightly short of the number in the larger sample, no appreciable error will result in considering S, estimated from the subsample, as being equal to the sample value. Even though considerable effort was made to find and identify all taxa, the Survey samples undoubtedly contain a fair number of rare phytoplankton taxa which were not encountered.

In the Shannon-Wiener formula, an increase in the number of taxa and/or an increase in the evenness of the distribution of individuals among taxa will increase the average diversity per individual from its minimal value of zero. Sager and Hasler (1969) found that the richness of taxa was of minor importance in determination of average diversity per individual for phytoplankton and they concluded that phytoplankton taxa in excess of the 10 to 15 most abundant ones have little effect on H, which was verified by our own calculations. Our counts are in number per milliliter and since logarithms to the base 2 were used in our calculations, H is expressed in units of bits per individual. When individuals of a taxon were so rare that they were not counted, a value of 1/130 per milliliter or 0.008 per milliliter was used in the calculations since at least one individual of the taxon must have been present in the collection.

A Survey sample for a given lake represents a composite of all phytoplankton collected at different sampling sites on a lake during a given sampling period. Since the number of samples (M) making up a composite is a function of both the complexity of the lake sampled and its size, it should affect the richness-of-taxa component of the diversity of our phytoplankton collections. The maximum diversity (MaxH) (i.e., when the individuals are distributed among the taxa as evenly as possible) was estimated from $\log_2 S$, the total diversity (D) was calculated from HN, and the evenness component of diversity (J) was estimated from H/MaxH (Pielou 1966). Also given in the Appendix are L (the mean number of individuals per taxa per milliliter) and K (the number of individuals per milliliter of the most abundant taxon in the sample).

Zand (1976) suggests that diversity indices be expressed in units of "sits", i.e., in logarithms to base S (where S is the total number of taxa in the sample) instead of in "bits", i.e., in logarithms to base 2. Zand points out that the diversity index in sits per individual is a normalized number ranging from 1 for the most evenly distributed samples to 0 for the least evenly distributed samples. Also, it can be used to compare different samples, independent of the number of taxa in each. The diversity in bits per individual should not be used in direct comparisons involving various samples which have different numbers of species. Since MaxH equals log S, the expression in sits is equal to $\log_S S$, or 1. Therefore diversity in sits per individual is numerically equivalent to J, the evenness component for the Shannon-Wiener formula.

SPECIES OCCURRENCE AND ABUNDANCE

The alphabetic phytoplankton species list for each lake, presented in the Appendix, gives the concentrations of individual species by sampling date. Concentrations are in cells, colonies, or filaments (CEL, COL, FIL) per milliliter. An "X" after a species name indicates the presence of the species on that date in such a low concentration that it did not show up in the count. A blank space indicates that the organism was not found in the sample collected on that date. Column S is used to designate the examiner's subjective opinion of the five dominant taxa in a sample, based upon relative size and concentration of the organism. The percent column (%C) presents, by abundance, the percentage composition of each taxon.

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APPENDIX. SUMMARY OF PHYTOPLANKTON DATA

This appendix was generated by computer. Because it was only possible to use upper case letters in the printout, all scientific names are printed in upper case and are not italicized.

The alphabetic phytoplankton lists include taxa without species names (e.g., EUNOTIA, EUNOTIA #1, FLAGELLATE, FLAGELLATES, MICROSYSTIS INCERTA ?, CHLOROPHYTAN COCCOID CELLED COLONY). When species determinations were not possible, symbols or descriptive phrases were used to separate taxa for enumeration purposes. Each name on a list, however, represents a unique species different from any other name on the same list, unless otherwise noted, for counting purposes.

Numbers were used to separate unidentified species of the same genus. A generic name listed alone is also a unique species. A question mark (?) is placed immediately after the portion of a name which was assigned with uncertainty. Numbered, questioned, or otherwise designated taxa were established on a lake-by-lake basis; therefore NAVICULA #2 from lake A cannot be compared to NAVICULA #2 from lake B. Pluralized categories (e.g., FLAGELLATES, CENTRIC DIATOMS, SPP.) were used for counting purposes when taxa could not be properly differentiated on the counting chamber.

LAKE NAME: BEACH CITY RES.
STORET NUMBER: 3901

NYGAARD TROPHIC STATE INDICES

DATE	10 06 73
MYXOPHYCEAN	3.00 E
CHLOROPHYCEAN	6.00 E
EUGLENOPHYTE	1.11 E
DIATOM	0.29 ?
COMPOUND	2i.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	10 06 73
GENUS	21
SPECIES	06

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		10 06 73
AVERAGE DIVERSITY	H	4.26
NUMBER OF TAXA	S	36.00
NUMBER OF SAMPLES COMPOSITED	M	6.00
MAXIMUM DIVERSITY	MAXH	5.17
TOTAL DIVERSITY	D	4349.46
TOTAL NUMBER OF INDIVIDUALS/ML	N	1021.00
EVENESS COMPONENT	J	0.82
MEAN NUMBER OF INDIVIDUALS/TAXA	L	28.36
NUMBER/ML OF MOST ABUNDANT TAXON	K	124.00

LAKE NAME: BEACH CITY RES.
STORET NUMBER: 3901

CONTINUED

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TAXA	FORM	S	%C	ALGAL UNITS PER ML
ANABAENA	FIL			X
ANKISTRODESMUS FALCATUS	CEL	1	4.9	50
CARTERIA	CEL	1	2.4	25
CLOSTERIUM	CEL	1	2.4	25
CRUCIGENIA TETRAPEDIA	CEL	1	4.9	50
CRYPTOMONAS EROSA	CEL	1	2.4	25
CRYPTOMONAS REFLEXA	CEL	1	4.9	50
CYCLOTELLA MENEGHINIANA	CEL	3	7.2	74
DACTYLOCOCCOPSIS IRREGULARIS	CEL	1	4.9	50
EUGLENA #1	CEL	1	2.4	25
EUGLENA ACUS	CEL	1		X
EUGLENA GRACILIS	CEL	5	4.9	50
EUGLENA MINIMA	CEL	1		X
EUGLENA OXYURIS	CEL	1		X
FLAGELLATE #1	CEL	1	2.4	25
GYROSIGMA	CEL	1		X
LEPOCINCLIS OVUM	CEL	1		X
MALLOMONAS ACAROIDES	CEL	1	4.9	50
MELOSIRA DISTANS	CEL	1	4.9	50
NAVICULA #1	CEL	1		X
NAVICULA GASTRUM	CEL	1		X
NITZSCHIA #1	CEL	1	2.4	25
NITZSCHIA #2	CEL	2	9.7	99
OSCILLATORIA LIMNETICA	FIL	4	7.2	74
PERIDINIUM QUADRIDENS	CEL	1		X
PHACUS ORBICULARIS	CEL	1		X
PHACUS PLEURONECTES	CEL	1		X
PINNULARIA	CEL	1		X
SCENEDESMUS ACUMINATUS	COL	1	2.4	25
SCENEDESMUS DIMORPHUS	COL	1	4.9	50
SCENEDESMUS QUADRICAUDA	COL	1	2.4	25
SCHROEDERIA SETIGERA	CEL	1	2.4	25

LAKE NAME: BEACH CITY RES.
STORET NUMBER: 3501

CONTINUED

10 06 73

TAXA	FORM	S	%C	ALGAL UNITS PER ML
SYNEDRA	CEL		2.4	25
SYNURA	COL	1	12.1	124
TRACHELOMONAS PULCHELLA	CEL			X
TRACHELOMONAS VOLVOCINA	CEL			X
TOTAL				1021

LAKE NAME: BUCKEYE
STORET NUMBER: 3902

NYGAARD TROPHIC STATE INDICES

DATE	04 26 73	07 30 73	10 08 73
MYXOPHYCEAN	4.50 E	3.50 E	7.00 E
CHLOROPHYCEAN	9.50 E	5.50 E	11.0 E
EUGLENOPHYTE	0.18 ?	0.17 ?	0.19 ?
DIATOM	0.33 E	0.71 E	1.17 E
COMPOUND	17.5 E	11.7 E	25.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 26 73	07 30 73	10 08 73
GENUS	13	19	28
SPECIES	00	07	05

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 26 73	07 30 73	10 08 73
AVERAGE DIVERSITY	H	1.38	4.25	4.40
NUMBER OF TAXA	S	49.00	66.00	66.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	5.61	6.04	6.04
TOTAL DIVERSITY	D	239872.98	284516.25	348163.20
TOTAL NUMBER OF INDIVIDUALS/ML	N	173821.00	66945.00	79128.00
EVENESS COMPONENT	J	0.25	0.70	0.73
MEAN NUMBER OF INDIVIDUALS/TAXA	L	3547.37	1014.32	1198.91
NUMBER/ML OF MOST ABUNDANT TAXON	K	137630.00	7430.00	8811.00

LAKE NAME: BUCKEYE
STORET NUMBER: 3902

CONTINUED

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 08 73 S	10 08 73 %C	10 08 73 ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL						X			
ACTINASTRUM HANTZSCHII	CEL									X
ANABAENA	FIL		0.4	648						
ANABAENA #1	FIL					0.4	297			X
ANABAENOPSIS ELENKINII	FIL					0.1	74		2.4	1901
ANKISTRODESMUS	CEL								0.2	173
ANKISTRODESMUS ?	CEL					3.7	2452			
ANKISTRODESMUS FALCATUS	CEL					0.2	149			
APHANIZOMENON FLOS-AQUAE	FIL					3.4	2303		1.3	1037
CHLAMYDOMONAS	CEL			X						
CHLAMYDOMONAS #1	CEL								0.1	86
CHLOROGONIUM ELONGATUM	CEL								0.5	432
CHROOCOCCUS	COL		0.8	1457						
CHROOCOCCUS LIMNETICUS	COL				1	11.1	7430	3	7.6	6047
CLOSTERIOPSIS	CEL					0.1	74			
CLOSTERIUM	CEL					0.1	74			
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL		0.1	243						
COELOSPHAERIUM	COL		0.0	81						
COSCINODISCUS	CEL								0.2	173
COSMARIUM	CEL			X						
COSMARIUM #1	CEL					0.1	74			
COSMARIUM #2	CEL					0.1	74		0.8	605
CRYPTOMONAS EROSA	CEL	5	0.9	1619		0.3	223	4	9.2	7256
CYCLOTELLA	CEL								0.4	346
CYCLOTELLA MENEGHINIANA	CEL						X			X
CYMBELLA	CEL		0.0	81						
DACTYLOCOCCOPSIS IRREGULARIS	CEL					2.2	1486		7.4	5874
DIATOMA ?	CEL			X						
DICTYOSPHAERIUM	COL			X						
DICTYOSPHAERIUM PULCHELLUM	COL					0.4	297			
EUGLENA	CEL			X						

LAKE NAME: BUCKEYE
STORET NUMBER: 3902

CONTINUED

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 08 73 S	10 08 73 %C	10 08 73 ALGAL UNITS PER ML
EUGLENA #1	CEL						X			X
EUGLENA #2	CEL								0.1	86
EUGLENA GRACILIS	CEL						X		0.1	86
FLAGELLATE #1	CEL		0.7	1133		0.2	149		0.4	346
FLAGELLATE #2	CEL		0.2	405						
FLAGELLATE #4	CEL						X			X
GLENODINIUM	CEL						X			
GOLENKINIA	CEL		0.1	162						
GOLENKINIA RADIATA	CEL					0.2	149		0.1	86
GYMNODINIUM ORDINATUM	CEL		0.1	162		0.1	74		0.5	432
GYROSIGMA	CEL			X						
GYROSIGMA KUTZINGII	COL					0.1	74			
KIRCHNERIELLA	CEL		0.7	1214						
KIRCHNERIELLA ?	CEL								0.2	173
KIRCHNERIELLA CONTORTA	COL								0.5	432
LAGERHEIMIA QUADRISETA	CEL			X						
LEPOCINCLIS	CEL						X			
LEPOCINCLIS OVUM	CEL									X
LYNGBYA	FIL			X						
LYNGBYA CONTORTA	FIL					6.5	4384		9.6	7602
LYNGBYA SUBTILIS	FIL					3.3	2229		5.6	4406
MALLOMONAS	CEL		0.2	324						
MALLOMONAS ACAROIDES	CEL						X		0.1	86
MELOSIRA	CEL		0.3	486						
MELOSIRA DISTANS	CEL					0.7	446		0.2	173
MELOSIRA GRANULATA	CEL			X		4.4	2972	1	4.4	3455
MELOSIRA ITALICA	CEL					0.3	223		1.2	950
MERISMOPEDIA GLAUCA	COL					1.3	892		0.3	259
MERISMOPEDIA TENUISSIMA	COL		0.7	1133	5	9.5	6390		4.8	3801
MICROCYSTIS AERUGINOSA	COL					1.2	817		0.1	86
MICROCYSTIS INCERTA	COL	4	2.0	3482		9.7	6464		6.6	5183
NAVICULA	CEL			X						

LAKE NAME: BUCKEYE
STORET NUMBER: 3902

CONTINUED

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 08 73 S	10 08 73 %C	10 08 73 ALGAL UNITS PER ML
NAVICULA #1	CEL						X			
NAVICULA #2	CEL									X
NAVICULA PYGMAEA	CEL									X
NITZSCHIA #1	CEL					5.0	3343		1.3	1037
NITZSCHIA HOLSATICA	CEL					1.9	1265			X
NITZSCHIA PALEA	CEL			X						
OSCILLATORIA	FIL				3	9.9	6613			
OSCILLATORIA #1	FIL						X		6.3	5010
OSCILLATORIA #2	FIL			X						
OSCILLATORIA LIMNETICA	FIL	1	79.2	137630				2	11.1	8811
PEDIASTRUM	COL			X						
PEDIASTRUM DUPLEX V. GRACILIMUM	COL			X						X
PEDIASTRUM DUPLEX V. RETICULATUM	COL						X			
PEDIASTRUM SIMPLEX	COL			X			X		0.1	86
PERIDINIUM	CEL								0.1	86
PERIDINIUM QUADRIDENS	CEL						X			
PHACUS	CEL			X						
PHACUS ACUMINATUS	CEL			X						
PHACUS CAUDATUS	CEL									
PHACUS MEGALOPSIS	CEL						X			X
PHACUS PSEUDONORDSTEDTII	CEL			X						X
RAPHIDIOPSIS	CEL						X			
RAPHIDIOPSIS CURVATA	FIL	3	2.6	4453						
SCENEDESMUS ABUNDANS	FIL				4	6.5	4384		2.0	1559
SCENEDESMUS ACUMINATUS	COL			X					1.2	950
SCENEDESMUS BICAUDATUS	COL					0.3	223			
SCENEDESMUS BIJUGA	CCL					0.3	223		0.8	605
SCENEDESMUS DIMORPHUS	COL		0.2	324		0.3	223			X
SCENEDESMUS DIMORPHUS F. TORTUS	CCL		0.3	486		0.8	520		0.4	346
	COL									X

LAKE NAME: BUCKEYE
STORET NUMBER: 3902

CONTINUED

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 08 73 S	10 08 73 %C	10 08 73 ALGAL UNITS PER ML
SCENEDESMUS ECORNIS V. DISCIFORMIS	COL					0.1	74		0.1	86
SCENEDESMUS OPOLIENSIS	COL		0.2	324						
SCENEDESMUS PROTUBERANS	COL					0.4	297		0.1	86
SCENEDESMUS QUADRICAUDA	COL			X		1.7	01115		2.0	1555
SCHROEDERIA SETIGERA	CEL		0.1	162		0.3	223		0.2	173
SPERMATOZOOPSIS EXULTANS ?	CEL						X			
STAURASTRUM	CEL			X		0.1	74			X
STEPHANODISCUS ASTRAEA	CEL				2	10.3	6910	5	6.6	5183
SURIRELLA OVATA	CEL									X
SYNEDRA	CEL	2	9.3	16192		1.2	817		0.5	432
SYNEDRA #1	CEL						X			
TETRAEDRON CAUDATUM V. LONGISPINUM	CEL		0.2	324		0.1	74		0.3	259
TETRAEDRON GRACILE	CEL						X			
TETRAEDRON MINIMUM	CEL					0.2	149		0.5	432
TETRAEDRON MINIMUM V. SCROBICULATUM	COL		0.6	1053						
TETRAEDRON MUTICUM	CEL						X		0.2	173
TETRAEDRON REGULARE	CEL						X		0.1	86
TETRAEDRON TRIGONUM	CEL					0.1	74			
TETRASTRUM ELEGANS	COL			X						
TETRASTRUM STAUROGENIAEFORME	COL		0.0	81					0.3	259
TRACHELOMONAS OBLONGA	CEL			X						
TRACHELOMONAS PULCHELLA	CEL					0.1	74			
TRACHELOMONAS VOLVOCINA	CEL								0.2	173
TREUBARIA SETIGERUM	CEL		0.1	162			X		0.2	173
TOTAL				173821			65545			79128

LAKE NAME: CHARLES MILL RES.
STORET NUMBER: 3905

NYGAARD TROPHIC STATE INDICES

DATE	04 20 73	07 27 73	10 06 73
MYXOPHYCEAN	01/0 E	6.50 E	08/0 E
CHLOROPHYCEAN	11/0 E	10.0 E	16/0 E
EUGLENOPHYTE	0.33 E	0.36 E	0.29 E
DIATOM	0.80 E	1.00 E	1.00 E
COMPOUND	20/0 E	25.0 E	3?/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 20 73	07 27 73	10 06 73
GENUS	22	23	29
SPECIES	00	04	07

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 20 73	07 27 73	10 06 73
AVERAGE DIVERSITY	H	2.13	3.27	4.12
NUMBER OF TAXA	S	27.00	65.00	54.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.75	6.02	5.75
TOTAL DIVERSITY	D	42542.49	149285.31	259053.24
TOTAL NUMBER OF INDIVIDUALS/ML	N	19973.00	45653.00	62877.00
EVENESS COMPONENT	J	0.45	0.54	0.72
MEAN NUMBER OF INDIVIDUALS/TAXA	L	739.74	702.35	1164.39
NUMBER/ML OF MOST ABUNDANT TAXON	K	8183.00	18427.00	17119.00

LAKE NAME: CHARLES MILL RES. CONTINUED
STORET NUMBER: 3905

TAXA	FORM	04 20 73 S	04 20 73 %C	04 20 73 ALGAL UNITS PER ML	07 27 73 S	07 27 73 %C	07 27 73 ALGAL UNITS PER ML	10 06 73 S	10 06 73 %C	10 06 73 ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL						X			X
ANABAENA	FIL					0.3	140			
ANABAENOPSIS	FIL								1.1	695
ANABAENOPSIS ELENKINII	FIL						X			
ANABAENOPSIS PHILIPPINENSIS	FIL					1.2	558			
ANKISTRODESMUS	CEL	4	11.2	2245		0.7	326			
ANKISTRODESMUS FALCATUS	CEL							5	0.9	595
APHANIZOMENON FLOS-AQUAE	FIL					0.1	47			
ASTERIONELLA FORMOSA	CEL		0.2	30						
CENTRIC DIATOMS	CEL								27.2	17119
CHLAMYDOMONAS	CEL						X			
CHLAMYDOMONAS SNOWII ?	CEL							1	1.1	695
CHLOROGONIUM	CEL								3.9	2481
CHLOROGONIUM ELONGATUM	CEL					0.2	93			
CLOSTERIUM	CEL						X			
COCCONEIS	CEL								0.3	199
COELASTRUM SPHAERICUM	COL						X			
COELOSPHAERIUM NAEGELIANUM	COL						X			
COSMARIUM	CEL					0.2	93			
CRUCIGENIA TETRAPEDIA	COL		0.2	30					0.2	99
CRYPTOMONAS EROSA	CEL								1.9	1191
CRYPTOMONAS OVATA	CEL					0.8	372			
CRYPTOMONAS REFLEXA	CEL						X			
CYANOPHYTAN FILAMENT	FIL								4.1	2580
CYCLOTELLA	CEL						X			
CYCLOTELLA MENEGHINIANA	CEL									X
CYCLOTELLA STELLIGERA	CEL									X
DACTYLOCOCCOPSIS	CEL					0.1	47		2.9	1836
DICTYOSPHAERIUM PULCHELLUM	COL			X		0.5	233		0.6	397
ELAKATOTHRIX GELATINOSA	COL									X
EUGLENA	CEL		0.4	89					0.9	595
EUGLENA #1	CEL					0.4	186			

LAKE NAME: CHARLES MILL RES.
STORET NUMBER: 3905

CONTINUED

TAXA	FORM	04 20 73 S	04 20 73 %C	04 20 73 ALGAL UNITS PER ML	07 27 73 S	07 27 73 %C	07 27 73 ALGAL UNITS PER ML	10 06 73 S	10 06 73 %C	10 06 73 ALGAL UNITS PER ML
EUGLENA ACUS	CEL					0.2	93			
EUGLENA OXYURIS	CEL						X			
FLAGELLATE #1	CEL								7.3	4615
FLAGELLATE #2	CEL								0.8	496
FLAGELLATES	CEL	2	33.4	5677		5.9	2699			
GLENODINIUM OCULATUM	CEL					0.1	47			
GYMNODINIUM ORDINATUM	CEL		0.3	59					0.2	99
KIRCHNERIELLA	CEL								2.0	1241
LAGERHEIMIA	CEL						X			
LAGERHEIMIA SUBSALSA	CEL									X
LEPOCINCLIS	CEL						X			
MALLOMONAS ACAROIDES	CEL								0.5	298
MELOSIRA #4	CEL		0.3	59		0.3	140	3	0.9	595
MELOSIRA DISTANS	CEL	3	7.8	1566	5	6.3	2885		10.7	6699
MELOSIRA GRANULATA V. ANGUSTISSIMA F. SPIRALIS	CEL									X
MELOSIRA ITALICA	CEL		0.2	30		3.9	1768		4.7	2928
MERISMOPEDIA GLAUCA	COL								0.1	50
MERISMOPEDIA TENUISSIMA	COL					6.3	2885		3.3	2089
MESOSTIGMA VIRIDIS	CEL					0.2	93			
MICROCYSTIS AERUGINOSA	COL						X			
MICROCYSTIS INCERTA	COL					0.6	279		2.6	1637
NAVICULA	CEL			X			X			X
NEPHROCYTIUM AGARDHIANUM	CEL						X			
NITZSCHIA	CEL		0.3	59	2	9.9	4514		0.8	496
NITZSCHIA #2	CEL									X
NITZSCHIA HOLSATICA	CEL						X		0.6	397
OOCYSTIS	CEL						X			
OPHIOCYTIUM CAPITATUM	CEL						X			
OSCILLATORIA	FIL				3	6.2	2838			
OSCILLATORIA GEMINATA	FIL				4	9.4	2932			
OSCILLATORIA LIMNETICA	FIL		1.0	207					6.0	3771

LAKE NAME: CHARLES MILL RES.
STORET NUMBER: 3905

CONTINUED

TAXA	FORM	04 20 73 S	04 20 73 %C	04 20 73 ALGAL UNITS PER ML	07 27 73 S	07 27 73 %C	07 27 73 ALGAL UNITS PER ML	10 06 73 S	10 06 73 %C	10 06 73 ALGAL UNITS PER ML
PEDIASTRUM DUPLEX V. RETICULATUM	COL						X			
PEDIASTRUM TETRAS V. TETRAODON	COL						X			
PENNATE DIATOM	CEL								2.4	1489
PHACUS	CEL						X			X
PHACUS CAUDATUS	CEL						X			
PHACUS CURVICAUDA	CEL						X			
PHACUS HELIKOIDES	CEL			X		0.1	47			
PHACUS MEGALOPSIS	CEL								0.2	99
PHACUS PSEUDONORDSTEDTII	CEL						X			
PHACUS PYRUM	CEL			X						
RAPHIDIOPSIS	CEL					0.7	326			
RAPHIDIOPSIS ? CURVATA	FIL					3.3	1489			
RAPHIDIOPSIS CURVATA	FIL								4.3	2680
SCENEDESMUS	COL					0.1	47			
SCENEDESMUS ABUNDANS	COL		0.2	30		0.3	140			
SCENEDESMUS ARCUATUS	COL									X
SCENEDESMUS BICAUDATUS	COL					0.1	47			X
SCENEDESMUS BIJUGA	COL								1.3	794
SCENEDESMUS BIJUGA ?	COL		0.3	59						
SCENEDESMUS DENTICULATUS	COL					0.2	93			
SCENEDESMUS DIMORPHUS	COL			X		0.2	93		0.2	149
SCENEDESMUS INTERMEDIUS V. BICAUDATUS	COL						X			
SCENEDESMUS QUADRICAUDA	COL					0.5	233		0.8	496
SCENEDESMUS SPINOSUS V. BICAUDATUS	COL						X			
SCHROEDERIA SETIGERA	CEL						X	2	1.3	844
STEPHANODISCUS	CEL				1	40.4	18427			
STEPHANODISCUS ASTRAEA	CEL	5	3.1	620						X
SURIRELLA OVATA	CEL			X						

LAKE NAME: CHARLES MILL RES.
STORET NUMBER: 3905

CONTINUED

TAXA	FORM	04 20 73 S	04 20 73 %C	04 20 73 ALGAL UNITS PER ML	07 27 73 S	07 27 73 %C	07 27 73 ALGAL UNITS PER ML	10 06 73 S	10 06 73 %C	10 06 73 ALGAL UNITS PER ML
SYNEDRA	CEL					2.7	1210		0.9	595
SYNEDRA #1	CEL	1	41.0	8183						
TETRAEDRON CAUDATUM	CEL								0.1	50
TETRAEDRON CAUDATUM V. LONGISPINUM ?	CEL			X						
TETRAEDRON MINIMUM V. SCROBICULATUM	CEL			X					0.1	50
TETRAEDRON MUTICUM	CEL						X		0.5	298
TETRAEDRON REGULARE V. INCLS	CEL		0.2	30						
TETRASTRUM HETERACANTHUM	COL			X			X			
TETRASTRUM STAURCGENIAEFORME	COL			X			X		0.3	199
TRACHELCMONAS LACUSTRIS	CEL								0.1	50
TRACHELCMONAS PULCHELLA	CEL			X		0.2	93		0.9	546
TRACHELCMONAS URCEOLATA	CEL					0.1	47		0.2	149
TRACHELCMONAS VOLVOCINA	CEL					0.2	93	4	0.8	496
TOTAL				19973			45653			62877

LAKE NAME: DEER CREEK RES.
STORET NUMBER: 3906

NYGAARD TROPHIC STATE INDICES

DATE	04 28 73	08 01 73	10 10 73
MYXOPHYCEAN	02/0 E	01/0 E	07/0 E
CHLOROPHYCEAN	02/0 E	10/0 E	13/0 E
EUGLENOPHYTE	0.50 E	0.64 E	0.15 ?
DIATOM	0.12 ?	0.60 E	0.80 E
COMPOUND	08/0 E	21/0 E	27/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 28 73	08 01 73	10 10 73
GENUS	15	14	22
SPECIES	07	00	07

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 28 73	08 01 73	10 10 73
AVERAGE DIVERSITY	H	3.44	2.75	3.63
NUMBER OF TAXA	S	30.00	32.00	41.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	2.00	3.00
MAXIMUM DIVERSITY	MAXH	4.91	5.00	5.36
TOTAL DIVERSITY	D	18624.16	5277.25	59731.65
TOTAL NUMBER OF INDIVIDUALS/ML	N	5414.00	1919.00	16455.00
EVENESS COMPONENT	J	4.70	6.55	6.68
MEAN NUMBER OF INDIVIDUALS/TAXA	L	180.47	59.97	401.34
NUMBER/ML OF MOST ABUNDANT TAXON	K	1582.00	659.00	4930.00

LAKE NAME: DEER CREEK RES. CONTINUED
STORET NUMBER: 3506

TAXA	FORM	04 28 73 S	04 28 73 %C	04 28 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 10 73 S	10 10 73 %C	10 10 73 ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL						X		1.3	219
ANKISTRODESMUS	CEL					0.8	15			
ANKISTRODESMUS ?	CEL		0.6	32						
ANKISTRODESMUS FALCATUS	CEL								2.4	393
CENTRIC DIATOMS	CEL								7.2	1180
CERATIUM HIRUNDINELLA F. BRACHYCERAS	CEL						X			
CHLAMYDOMONAS	CEL								1.6	262
CHLOROGONIUM	CEL								2.5	415
CHLOROGONIUM ELONGATUM	CEL						X			
COCCONEIS PLACENTULA V. EUGLYPTA	CEL		0.6	32						
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL									X
COELASTRUM MICROPORUM	COL						X			
CRUCIGENIA TETRAPEDIA	COL								0.4	66
CRYPTOMONAS	CEL	4	7.0	380					2.9	00480
CRYPTOMONAS EROSA	CEL			X						
CRYPTOMONAS REFLEXA	CEL		2.9	158						
CYANOPHYTAN FILAMENT	FIL	5	4.7	253					1.3	219
CYCLOTELLA STELLIGERA	CEL					27.2	522			)
CYMATOPLEURA SOLEA	CEL		0.3	16						
CYMBELLA	CEL		0.9	48						
DACTYLOCOCCOPSIS	CEL							4	5.3	874
DIATOMA VULGARE	CEL			X						
DICTYOSPHAERIUM	COL								0.5	87
ELAKATOTHRIX	CEL						X			
EUGLENA	CEL		1.8	95				5	2.9	481
EUGLENA ? #3	CEL					2.3	44			
EUGLENA #1	CEL					3.8	73			
EUGLENA #2	CEL					2.3	44			
EUGLENA GRACILIS	CEL					0.8	15			

LAKE NAME: DEER CREEK RES.
STORET NUMBER: 3906

CONTINUED

TAXA	FORM	04 28 73 S	04 28 73 %C	04 28 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 10 73 S	10 10 73 %C	10 10 73 ALGAL UNITS PER ML
FLAGELLATE	CEL				1	34.0	653			
FLAGELLATE #1	CEL	1	29.2	1582				1	30.0	4939
FLAGELLATE #2	CEL	2	14.6	791						
FLAGELLATE #4	CEL								0.3	44
GLENODINIUM GYMNODINIUM V. BISCUTELLIFORME	CEL						X			
GOLENKINIA	CEL									
GOMPHONEMA	CEL		1.8	95					0.1	22
GOMPHONEMA ACUMINATUM	CEL			X						
GYMNODINIUM ORDINATUM	CEL									X
GYROSIGMA KUTZINGII	CEL			X						
KIRCHNERIELLA	CEL								0.5	87
LUNATE CELL	CEL								0.4	66
MALLOMONAS	CEL								0.3	44
MELOSIRA	CEL						X			
MELOSIRA #4	CEL									X
MELOSIRA DISTANS	CEL					13.6	261		4.9	809
MELOSIRA VARIANS	CEL	3	13.7	744						
MERIDION CIRCULARE	CEL		0.6	32						
MERISMOPEDIA TENUISSIMA	COL						X		7.2	1180
MESOSTIGMA VIRIDIS	CEL					0.8	15			
MICROCYSTIS INCERTA	COL							3	12.9	2120
NAVICULA	CEL						X		0.1	22
NAVICULA #1	CEL		3.8	206						
NAVICULA #2	CEL		2.3	127						
NITZSCHIA #1	CEL					4.5	87			
NITZSCHIA #2	CEL					0.8	15			
NITZSCHIA ACICULARIS	CEL			X						
NITZSCHIA HOLSATICA	CEL									X
NITZSCHIA PALEA	CEL		1.2	63						
OSCILLATORIA	FIL								0.5	87
PENNATE DIATOM	CEL									X

LAKE NAME: DEER CREEK RES.
STORET NUMBER: 3906

CONTINUED

TAXA	FORM	04 28 73 S	04 28 73 %C	04 28 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 10 73 S	10 10 73 %C	10 10 73 ALGAL UNITS PER ML
PERIDINIUM ?	CEL									X
PERIDINIUM QUADRIDENS	CEL						X			
PHACUS ?	CEL		0.3	16						
PHACUS CAUDATUS ?	CEL						X			
RAPHIDIOPSIS	FIL		2.9	158						
RAPHIDIOPSIS CURVATA	FIL							2	9.4	1552
RHOICOSPHENIA CURVATA	CEL		2.3	127						
SCENEDESMUS ABUNDANS	COL						X		0.4	63
SCENEDESMUS BICAUDATUS	COL									X
SCENEDESMUS BIJUGA	COL								1.2	197
SCENEDESMUS DIMORPHUS	COL						X		1.1	175
SCENEDESMUS OPOLIENSIS	COL					3.0	58			
SCENEDESMUS QUADRICAUDA	COL						X		0.8	131
SCHROEDERIA SETIGERA	CEL								0.8	131
SPIRULINA	FIL								0.1	22
STEPHANODISCUS	CEL		5.3	285						
SURIRELLA	CEL		0.3	16						
SYNEDRA	CEL		2.9	158		0.8	15			X
SYNEDRA ULNA	CEL			X						
TETRAEDRON MUTICUM	COL						X		0.3	44
TETRASTRUM STAUROGENIAEFORME	COL			X			X			
TRACHELOMONAS	CEL									X
TRACHELOMONAS PULCHELLA	CEL					4.5	87		0.3	44
TRACHELOMONAS URCEOLATA	CEL						X			
TREUBARIA TRIAPPENDICULATA	CEL					0.8	15			
ZYGNEMA	FIL			X						
TOTAL				5414			1919			16455

LAKE NAME: DELAWARE RES.
STORET NUMBER: 3907

NYGAARD TROPHIC STATE INDICES

DATE	04 26 73	08 01 73	10 10 73
MYXOPHYCEAN	03/0 E	1.33 E	4.00 E
CHLOROPHYCEAN	03/0 E	1.33 E	4.00 E
EUGLENOPHYTE	0.33 E	1.12 E	0.37 E
DIATOM	1.00 E	03/0 E	4.00 E
COMPOUND	1J/0 E	6.67 E	13.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 26 73	08 01 73	10 10 73
GENUS	16	07	02
SPECIES	00	02	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 26 73	08 01 73	10 10 73
AVERAGE DIVERSITY	H	2.42	2.81	2.49
NUMBER OF TAXA	S	20.00	28.00	21.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.32	4.81	4.39
TOTAL DIVERSITY	D	21891.32	3003.89	3535.80
TOTAL NUMBER OF INDIVIDUALS/ML	N	9046.00	1069.00	1420.00
EVENESS COMPONENT	J	0.56	0.58	0.57
MEAN NUMBER OF INDIVIDUALS/TAXA	L	452.30	38.18	67.62
NUMBER/ML OF MOST ABUNDANT TAXON	K	4305.00	415.00	819.00

LAKE NAME: DELAWARE RES.
STORET NUMBER: 3907

CONTINUED

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 10 73 S	10 10 73 %C	10 10 73 ALGAL UNITS PER ML
ANKISTRODESMUS ?	CEL								1.9	27
CENTRIC DIATOM	CEL	3	12.3	1109						
CHLAMYDOMONAS	CEL			X						
CHLOROCOCCALEAN CELL	CEL								3.9	55
CLOSTERIUM #1	CEL						X			X
CLOSTERIUM #2	CEL						X			
COCCOID CELL	CEL	4	8.5	773						
COELASTRUM MICROPORUM	COL						X			
COELASTRUM RETICULATUM	COL									X
COSMARIUM #1	CEL					1.9	20			
CRYPTOMONAS EROSA	CEL	2	18.2	1549			X	4	3.9	55
CRYPTOMONAS REFLEXA	CEL		2.7	248						
CYCLOTELLA MENEGHINIANA	CEL				1	38.8	415			
CYST	CEL						X			
DACTYLOCOCCOPSIS IRREGULARIS	CEL		1.1	102		1.9	20		1.9	27
DINOBRYON SERTULARIA	CEL		0.3	29						
EUDORINA ELEGANS	CEL			X						
EUGLENA	CEL		1.0	88						
EUGLENA #1	CEL						X			
EUGLENA #2	CEL				2	22.1	236			
EUGLENA #3	CEL									X
EUGLENA ACUS	CEL						X			
EUGLENA OXYURIS	CEL						X			
FLAGELLATE #1	CEL	1	47.6	4305	3	9.3	99	5	5.8	82
GYMNODINIUM ORDINATUM	CEL					1.9	20		3.9	55
LYNGBYA LIMNETICA	FIL			X						
MALLOMONAS ACAROIDES	CEL		0.3	29		1.9	20		1.9	27
MELOSIRA #4	CEL							2	5.8	82
MELOSIRA DISTANS	CEL		0.6	58	4	7.4	79		1.9	27
MELOSIRA GRANULATA	CEL				5	5.6	60			X
MERISMOPEDIA TENUISSIMA	COL					1.9	20		1.9	27
MICROCYSTIS AERUGINOSA	COL						X			

LAKE NAME: DELAWARE RES. CONTINUED
STORET NUMBER: 3907

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 10 73 S	10 10 73 %C	10 10 73 ALGAL UNITS PER ML
MICROCYSTIS INCERTA	COL								3.9	55
NAVICULA #1	CEL		1.4	131						
OSCILLATORIA	FIL		0.6	58						X
OSCILLATORIA LIMNETICA	FIL					1.9	20			
PHACUS	CEL			X						
PHACUS CAUDATUS	CEL						X			X
PHACUS HELIKOIDES	CEL						X			
SCENEDESMUS DIMORPHUS	COL									X
SCENEDESMUS ECORNIS V. DISCIFORMIS	COL		0.3	29		1.9	20			
SCENEDESMUS QUADRICAUDA	COL		0.2	15			X			
SCHROEDERIA ? SETIGERA	CEL		0.5	44						
STEPHANODISCUS ASTRAEA	CEL							1	57.7	819
SYNEDRA	CEL	5	4.2	379					1.9	27
TETRAEDRON MUTICUM	CEL					1.9	20			
TRACHELOMONAS PULCHELLA	CEL						X	3	3.9	55
TRACHELOMONAS URCEOLATA	CEL						X			
TRACHELOMONAS VOLVOCINA	CEL					1.9	20			
TOTAL				9046			1069			1420

LAKE NAME: DILLON RES.
STORET NUMBER: 3908

NYGAARD TROPHIC STATE INDICES

DATE	04 26 73	07 30 73	10 08 73
MYXOPHYCEAN	04/0 E	09/0 E	4.00 E
CHLOROPHYCEAN	03/0 E	23/0 E	8.50 E
EUGLENOPHYTE	0.14 ?	0.06 ?	0.32 E
DIATOM	0.09 ?	1.25 E	0.86 E
COMPOUND	03/0 E	33/0 E	19.5 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 26 73	07 30 73	10 08 73
GENUS	15	23	24
SPECIES	01	07	05

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 26 73	07 30 73	10 08 73
AVERAGE DIVERSITY	H	1.42	4.21	1.86
NUMBER OF TAXA	S	23.00	48.00	58.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	2.00	3.00
MAXIMUM DIVERSITY	MAXH	4.52	5.58	5.86
TOTAL DIVERSITY	D	17368.02	84789.40	28874.64
TOTAL NUMBER OF INDIVIDUALS/ML	N	12231.00	20140.00	15524.00
EVENESS COMPONENT	J	0.31	0.75	0.32
MEAN NUMBER OF INDIVIDUALS/TAXA	L	531.78	419.58	267.66
NUMBER/ML OF MOST ABUNDANT TAXON	K	8677.00	2755.00	11358.00

LAKE NAME: DILLON RES.
STORET NUMBER: 3908

CONTINUED

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 08 73 S	10 08 73 %C	10 08 73 ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA V. DUBIA	CEL						X			X
ACHNANTHES MICROCEPHALA	CEL									X
ACTINASTRUM HANTZSCHII	CEL					1.4	285			X
ANABAENA	FIL					0.9	190			
ANABAENA #1	FIL					0.5	95			X
ANABAENOPSIS ?	FIL					4.7	950			
ANKISTRODESMUS FALCATUS	CEL					1.9	380	5	1.3	204
APHANIZOMENON FLOS-AQUAE	FIL									X
ASTERIONELLA FORMOSA	CEL		0.3	33						
CARTERIA	CEL									X
CARTERIA KLEBSII ?	CEL									X
CENTRIC DIATOM	CEL		0.8	100						
CHLAMYDOMONAS	CEL									X
CHLOROGONIUM	CEL								0.6	91
CHROOCOCCUS	COL				1	9.4	1900			
CLOSTERIUM	CEL								0.1	23
COELASTRUM RETICULATUM	COL									X
COSMARIUM	CEL									X
CRUCIGENIA APICULATA	COL									X
CRYPTOMONAS EROSA	CEL	5	0.5	66		1.4	285			X
CYCLOTELLA MENEGHINIANA	CEL								0.7	113
CYMBELLA VENTRICOSA	CEL						X			
DACTYLOCOCCOPSIS	CEL		0.3	33		0.5	95			
DIATOMA VULGARE	CEL			X						
EUGLENA	CEL								1.0	158
EUGLENA #1	CEL			X		1.4	285			X
FLAGELLATE #1	CEL			X						X
FLAGELLATE #2	CEL						X			
FLAGELLATES	CEL	2	4.6	565	3	13.7	2755	1	73.2	11358
GOMPHONEMA	CEL									X
GYMNODINIUM ORDINATUM	CEL								0.3	45

LAKE NAME: DILLON RES.
STORET NUMBER: 3908

CONTINUED

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 08 73 S	10 08 73 %C	10 08 73 ALGAL UNITS PER ML
FANTZSCHIA	CEL			X						
KIRCHNERIELLA ?	CEL						X			
LAGERHEIMIA	CEL					1.9	380			
LEPOCINCLIS	CEL								0.4	68
LEPOCINCLIS FUSIFORMIS ?	CEL									X
LYNGBYA	FIL					3.8	760			X
LYNGBYA CONTORTA	FIL								0.1	23
MELOSIRA #4	CEL						X		0.3	45
MELOSIRA DISTANS	CEL					0.9	190		0.3	45
MELOSIRA GRANULATA	CEL				4	1.9	380			X
MELOSIRA GRANULATA V. ANGUSTISSIMA	CEL					0.5	95		0.1	23
MERISMOPEDIA TENUISSIMA	COL		0.3	33		11.3	2280		0.6	91
MESOSTIGMA	CEL					0.9	190		0.7	113
MICRACTINIUM ?	COL		0.3	33			X			
MICROCYSTIS INCERTA	COL									X
NAVICULA	CEL			X						X
NAVICULA #1	CEL	4	0.8	100						
NAVICULA #2	CEL						X			
NEPHROCYTIUM AGARDHIANUM	COL								0.3	45
NITZSCHIA	CEL		0.3	33		9.9	1995		0.6	91
NITZSCHIA #1	CEL			X						
NITZSCHIA ACICULARIS ?	CEL	3	19.3	2360						
OOCYSTIS	CEL					1.9	380			
OSCILLATORIA	FIL		0.3	33						
OSCILLATORIA ?	FIL	1	70.9	8677						
OSCILLATORIA LIMNETICA	FIL				5	5.6	1330	3	6.7	1041
PANDORINA MORUM	COL									X
PEDIASTRUM BORYANUM	COL									X
PEDIASTRUM SIMPLEX V. DUODENARIUM	COL									X
PENNATE DIATOM	CEL								0.1	23

LAKE NAME: DILLON RES.
STORET NUMBER: 3508

CONTINUED

TAXA	FORM	04 26 73 S	%C	ALGAL UNITS PER ML	07 30 73 S	%C	ALGAL UNITS PER ML	10 08 73 S	%C	ALGAL UNITS PER ML
PENNATE DIATOMS	CEL		0.3	33						
PERIDINIUM	CEL						X			
PHACUS	CEL								0.1	23
PHACUS ACUMINATUS	CEL									X
PHACUS TRIQUETER	CEL						X			
POLYEDRIOPSIS	CEL						X			
RAPHIDIOPSIS CURVATA	FIL				2	4.7	950	4	1.9	294
RHOICOSPHENIA CURVATA	CEL		0.3	33						
SCENEDESMUS	COL					0.9	190			
SCENEDESMUS ABUNDANS	COL						X		0.7	113
SCENEDESMUS ACUMINATUS	COL						X		0.1	23
SCENEDESMUS BICAUDATUS	COL						X			
SCENEDESMUS BIJUGA ?	COL					0.5	95			
SCENEDESMUS BIJUGA V. ALTERNANS	COL						X			
SCENEDESMUS DENTICULATUS	COL						X		0.3	45
SCENEDESMUS DIMORPHUS	COL		0.5	66		1.9	380		0.3	45
SCENEDESMUS INTERMEDIUS	COL								0.1	23
SCENEDESMUS INTERMEDIUS V. BICAUDATUS	COL								0.4	68
SCENEDESMUS OPOLIENSIS	COL					0.5	95		0.7	113
SCENEDESMUS QUADRICAUDA	COL		0.3	33		0.9	190			
SCHROEDERIA SETIGERA	CEL					0.5	95			
STEPHANODISCUS	CEL					10.8	2185	3	6.1	950
SYNEDRA	CEL			X		1.4	285		0.7	113
TETRAEDRON	CEL					0.5	95			
TETRAEDRON CAUDATUM V. LONGISPINUM	CEL					0.5	95			
TETRAEDRON MINIMUM	CEL					0.5	95		0.4	68
TETRAEDRON MUTICUM	CEL					0.5	95			
TETRASTRUM HETERACANTHUM	COL									X
TETRASTRUM STAUROGENIAEFORME	COL									X

LAKE NAME: DILLON RES.
STORET NUMBER: 3908

CONTINUED

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 08 73 S	10 08 73 %C	10 08 73 ALGAL UNITS PER ML
TRACHELOMONAS PULCHELLA	CEL								0.1	23
TRACHELOMONAS URCEOLATA	CEL								0.1	23
TREUBARIA TRIAPPENDICULATA	CEL					0.5	95			
TOTAL				12231			20140			15524

LAKE NAME: GRANT LAKE
STORET NUMBER: 3912

NYGAARD TROPHIC STATE INDICES

DATE	04 24 73	08 01 73	10 09 73
MYXOPHYCEAN	01/0 E	7.00 E	07/0 E
CHLOROPHYCEAN	02/0 E	12.0 E	10/0 E
EUGLENOPHYTE	0.33 E	0.47 E	0.18 ?
DIATOM	0/03 ?	0.17 ?	0.75 E
COMPOUND	04/0 E	32.0 E	23/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 24 73	08 01 73	10 09 73
GENUS	00	21	19
SPECIES	00	00	03

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 24 73	08 01 73	10 09 73
AVERAGE DIVERSITY	H	1.91	3.14	3.51
NUMBER OF TAXA	S	11.00	63.00	33.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	3.46	5.98	5.04
TOTAL DIVERSITY	D	259.76	47439.12	374134.41
TOTAL NUMBER OF INDIVIDUALS/ML	N	136.00	15108.00	106591.00
EVENESS COMPONENT	J	0.55	0.53	0.70
MEAN NUMBER OF INDIVIDUALS/TAXA	L	12.36	239.81	3230.03
NUMBER/ML OF MOST ABUNDANT TAXON	K	51.00	4621.00	22091.00

LAKE NAME: GRANT LAKE
STORET NUMBER: 3912

CONTINUED

TAXA	FORM	04 24 73 S	%C	ALGAL UNITS PER ML	08 01 73 S	%C	ALGAL UNITS PER ML	10 09 73 S	%C	ALGAL UNITS PER ML
AMPHIPRORA	CEL			X						
ANABAENA #1	FIL					0.1	20			
ANABAENOPSIS ELENKINII	FIL								0.4	429
ANKISTRODESMUS FALCATUS	FIL								1.4	1501
APHANIZOMENON FLOS-AQUAE	CEL									X
CENTRIC DIATOM	CEL							2	13.7	14584
CHLAMYDOMONAS	CEL								8.0	8579
CHLOROGONIUM	CEL					2.6	387			
CHLOROGONIUM ELONGATUM	CEL								1.4	1501
CHROOCOCCUS	COL					0.2	31			
COCCONEIS #1	CEL						X			
COCCONEIS #2	CEL						X			
COCCONEIS PLACENTULA V. EUGLYPTA	CEL						X			
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL					0.3	41			
CRUCIGENIA	COL					0.1	12			
CRYPTOMONAS EROSA	CEL					3.8	570		3.6	3861
CRYPTOMONAS REFLEXA	CEL	1	37.5	51						
CRYPTOMONAS ROSTRATA	CEL			X						
CYCLOTELLA MENEGHINIANA	CEL						X			
CYMATOPLEURA SOLEA	CEL						X			
CYMBELLA #1	CEL						X			
CYMBELLA #2	CEL						X			
CYST	CEL						X			
DACTYLOCOCCOPSIS IRREGULARIS	FIL								5.0	5362
DICTYOSPHAERIUM	COL						X			
DICTYOSPHAERIUM EHRENBERGIANUM	COL									X
EUGLENA	CEL									X
EUGLENA #1	CEL					1.1	163			
EUGLENA ACUS	CEL						X			
FLAGELLATE #1	CEL							5	8.5	9008

LAKE NAME: GRANT LAKE
STORET NUMBER: 3912

CONTINUED

TAXA	FORM	04 24 73 S	04 24 73 %C	04 24 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
FLAGELLATE #4	CEL			X			X			
FRAGILARIA	CEL						X			
FRAGILARIA CROTONENSIS	CEL									X
GOMPHONEMA	CEL						X			
GYMNODINIUM ORDINATUM	CEL					1.6	244			
GYROSIGMA	CEL						X			
KIRCHNERIELLA	CEL					0.4	61			
KIRCHNERIELLA CONTORTA	CEL					0.1	20			
MALLOMONAS ACAROIDES	CEL	4	12.5	17		0.8	122		0.6	643
MELOSIRA #4	CEL				5	5.3	794		2.0	2145
MELOSIRA DISTANS	CEL				2	30.6	4621	3	13.3	14155
MERISMOPEDIA GLAUCA	COL					0.3	41			
MERISMOPEDIA TENUISSIMA	COL					0.7	102		3.0	3217
MICROCYSTIS INCERTA	COL					1.5	224		3.4	5791
NAVICULA #1	CEL						X			
NAVICULA #2	CEL						X			
NAVICULA #3	CEL						X			
NAVICULA #4	CEL						X			
NAVICULA #5	CEL						X			
NITZSCHIA	CEL					0.4	61			
NITZSCHIA #1	CEL			X						
NITZSCHIA #2	CEL									X
NITZSCHIA #3	CEL						X			
NITZSCHIA ACICULARIS	CEL						X			
NITZSCHIA HOLSATICA	CEL				3	8.8	1323			
OOCYSTIS	COL	2	25.0	34						
OSCILLATORIA LIMNETICA	FIL	3	25.0	34		1.6	244	1	20.7	22091
PEDIASTRUM TETRAS	COL									X
PENNATE DIATOM	CEL							4	10.3	10938
PHACUS CURVICAUDA	CEL					0.0	6			
PHACUS MEGALOPSIS	CEL					0.1	12			
PHACUS PLEURONECTES	CEL						X			

LAKE NAME: GRANT LAKE
STORET NUMBER: 3912

CONTINUED

TAXA	FORM	04 24 73 S	04 24 73 %C	04 24 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
PHACUS TRIQUETER	CEL						X			
PIANULARIA	CEL						X			
PTEROMONAS	CEL						X			
PTEROMONAS ANGULOSA	CEL									X
RAPHIDIOPSIS CURVATA	FIL					2.8	428		0.4	429
RHOICOSPHENIA CURVATA	CEL						X			
SCENEDESMUS ACUTUS	COL									X
SCENEDESMUS ARCUATUS	COL					0.5	81			
SCENEDESMUS BICAUDATUS	COL					1.2	183			X
SCENEDESMUS BIJUGA	COL					0.7	102			X
SCENEDESMUS DIMORPHUS	COL					0.1	12		0.2	214
SCENEDESMUS QUADRICAUDA	COL						X			X
SPHAEROCYSTIS SCHROETERI	COL			X						
STAURASTRUM	CEL						X			
STEPHANODISCUS ASTRAEA	CEL				1	29.5	4459			
SURIRELLA OVATA	CEL					0.0	6			
SYNEDRA	CEL			X		0.5	81		0.6	643
SYNEDRA ULNA	CEL						X			
TETRAEDRON CAUDATUM V. LONGISPINUM	CEL								0.2	214
TETRAEDRON MUTICUM	CEL								1.0	072
TETRAEDRON TRIGONUM	CEL					0.4	61			
TETRASTRUM	COL					0.0	6			
TRACHELOMONAS OBLONGA	CEL			X						
TRACHELOMONAS PULCHELLA	CEL				4	2.7	407		0.2	214
TRACHELOMONAS URCEOLATA	CEL						X			X
TRACHELOMONAS VOLVOCINA	CEL					1.2	183			
TOTAL				136			15108			6591

LAKE NAME: HOOVER RES.
STORET NUMBER: 3914

NYGAARD TROPHIC STATE INDICES

DATE	04 26 73	08 01 73	10 10 73
MYXOPHYCEAN	1.00 E	1.00 E	1.00 E
CHLOROPHYCEAN	2.00 E	6.00 E	2.50 E
EUGLENOPHYTE	0.33 E	0.57 E	0.86 E
DIATOM	0.44 E	1.67 E	0.75 E
COMPOUND	9.00 E	16.0 E	9.00 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 26 73	08 01 73	10 10 73
GENUS	03	01	11
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 26 73	08 01 73	10 10 73
AVERAGE DIVERSITY	H	1.73	2.90	3.06
NUMBER OF TAXA	S	22.00	26.00	30.00
NUMBER OF SAMPLES COMPOSITED	M	4.00	4.00	4.00
MAXIMUM DIVERSITY	MAXH	4.46	4.70	4.91
TOTAL DIVERSITY	D	26124.73	4932.90	9513.54
TOTAL NUMBER OF INDIVIDUALS/ML	N	15101.00	1701.00	3109.00
EVENESS COMPONENT	J	0.39	0.62	0.62
MEAN NUMBER OF INDIVIDUALS/TAXA	L	686.41	65.42	103.63
NUMBER/ML OF MOST ABUNDANT TAXON	K	9547.00	415.00	1157.00

LAKE NAME: HOOVER RES.
STORET NUMBER: 3914

CONTINUED

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 10 73 S	10 10 73 %C	10 10 73 ALGAL UNITS PER ML
ANKISTRODESMUS	CEL								2.3	72
ANKISTRODESMUS ?	CEL		0.6	93						
ASTERICNELLA FORMOSA	CEL		0.5	70						
CERATIUM HIRUNDINELLA F. BRACHYCERAS	CEL					1.2	21			X
CHLAMYDOMONAS	CEL						X			X
CHLOROGONIUM ELONGATUM	CEL									X
CLOSTERIUM	CEL		0.1	11						X
CLOSTERIUM ?	CEL						X			
COELASTRUM MICROPORUM	COL						X		0.8	24
CRUCIGENIA APICULATA	COL									X
CRYPTOMONAS EROSA	CEL	3	8.8	1332				5	3.9	121
CRYPTOMONAS OVATA	CEL				5	7.3	124	4	9.5	265
CRYPTOMONAS REFLEXA	CEL			X						
CYCLOTELLA MENEGHINIANA	CEL						X			
CYCLOTELLA STELLIGERA	CEL							3	8.5	265
DACTYLOCOCCOPSIS	CEL		0.2	23					6.2	193
DIATOMA VULGARE	CEL		0.1	11						
ELAKATOTHRIX	CEL						X			
EUASTRUM DENTICULATUM	CEL									X
EUGLENA	CEL			X			X			
EUGLENA #1	CEL								1.5	48
EUGLENA #3	CEL								0.8	24
EUGLENA OXYURIS	CEL									X
FLAGELLATE #1	CEL	1	63.2	9547	3	20.8	353	2	37.2	1157
FRAGILARIA	CEL			X						
GLENODINIUM	CEL		0.1	11						
GLENODINIUM OCULATUM	CEL					1.2	21			
GYMNODINIUM ORDINATUM	CEL									X
HANTZSCHIA	CEL		0.1	11						
MELOSIRA #4	CEL		0.6	93		2.4	41			
MELOSIRA DISTANS	CEL	2	17.5	2640	2	21.9	373		3.9	121

LAKE NAME: HOOVER RES. CONTINUED
STORET NUMBER: 3514

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 10 73 S	10 10 73 %C	10 10 73 ALGAL UNITS PER ML
MELOSIRA GRANULATA	CEL				1	24.4	415	1	14.7	458
MELOSIRA ITALICA ?	CEL	5	0.5	82						
MERISMOPEDIA TENUISSIMA	COL					1.2	21			
MESOSTIGMA VIRIDIS	CEL									X
NAVICULA	CEL			X			X			
NITZSCHIA	CEL								0.8	24
PENNATE DIATOMS	CEL		1.0	151						
PHACUS CURVICAUDA	CEL						X			
PHACUS CURVICAUDA ?	CEL									X
PTEROMONAS ANGULOSA	CEL					1.2	21			
RAPHIDIOPSIS CURVATA	FIL									X
RHOICOSPHENIA CURVATA	CEL						X			
SCENEDESMUS ABUNDANS	COL					1.2	21			
SCENEDESMUS INTERMEDIUS	COL						X			
SCENEDESMUS INTERMEDIUS V. BICAUDATUS	COL					1.2	21			X
STEPHANODISCUS ASTRAEA	CEL	4	5.6	993	4	12.2	207			
SURIRELLA	CEL		0.1	11						
SYNEDRA	CEL		0.1	11			X			X
SYNEDRA #1	CEL								7.0	217
SYNEDRA #2	CEL								0.8	24
SYNEDRA ULNA	CEL		0.1	11						
TETRASTRUM STAUROGENIAEFORME	CEL			X					0.8	24
TRACHELOMONAS PULCHELLA	CEL					2.4	41		1.5	48
TRACHELOMONAS URCEOLATA	CEL					1.2	21		0.8	24
TREUBARIA TRIAPPENDICULATA	CEL						X			
TOTAL				15101			1701			3109

LAKE NAME: INDIAN LAKE
STORET NUMBER: 3915

NYGAARD TROPHIC STATE INDICES

DATE	05 04 73	08 02 73	10 11 73
MYXOPHYCEAN	09/0 E	6.00 E	4.50 E
CHLOROPHYCEAN	13/0 E	9.50 E	8.50 E
EUGLENOPHYTE	0.05 ?	0.35 E	0.12 ?
DIATOM	0.37 E	0.60 E	0.40 E
COMPOUND	26/0 E	24.0 E	15.5 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 04 73	08 02 73	10 11 73
GENUS	23	28	24
SPECIES	00	04	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 04 73	08 02 73	10 11 73
AVERAGE DIVERSITY	H	3.03	2.74	2.96
NUMBER OF TAXA	S	40.00	66.00	42.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	5.32	6.04	5.39
TOTAL DIVERSITY	D	68577.99	216388.76	320147.68
TOTAL NUMBER OF INDIVIDUALS/ML	N	22633.00	78974.00	108158.00
EVENESS COMPONENT	J	0.57	0.45	0.55
MEAN NUMBER OF INDIVIDUALS/TAXA	L	565.83	1196.58	2575.19
NUMBER/ML OF MOST ABUNDANT TAXON	K	9859.00	26980.00	41319.00

LAKE NAME: INDIAN LAKE
STORET NUMBER: 3915

CONTINUED

TAXA	FORM	05 04 73 S	%C	ALGAL UNITS PER ML	08 02 73 S	%C	ALGAL UNITS PER ML	10 11 73 S	%C	ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL						X			
ACTINASTRUM	CEL			X						
ANABAENA	FIL					0.6	472			
ANABAENOPSIS	FIL					0.1	67		0.6	694
ANABAENOPSIS ELENKINII	FIL						X			X
ANKISTRODESMUS	CEL					0.6	472			
ANKISTRODESMUS ?	CEL	3	14.9	3374						
APHANOTHECE	COL		2.2	491						
CHLOROGONIUM	CEL			X		0.3	269			
CHROOCOCCUS	COL									X
COCCONEIS	CEL			X						
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL									X
COELASTRUM SPHAERICUM	COL					0.1	67			
COSMARIUM	CEL					0.6	472			X
CRUCIGENIA	COL								0.2	174
CRUCIGENIA TETRAPEDIA	COL					0.1	67			
CRYPTOMONAS	CEL								0.6	694
CRYPTOMONAS EROSA	CEL		0.7	164		0.1	67			X
CYCLOTELLA MENEGHINIANA	CEL						X			
CYCLOTELLA STELLIGERA	CEL						X			
CYMATOPLEURA SOLEA	CEL						X			
DACTYLOCOCCOPSIS	CEL		0.7	164						
DIATOMA	CEL						X			
DICTYOSPHAERIUM	COL		0.6	131						X
DICTYOSPHAERIUM PULCHELLUM	COL						X			
DINOBRYON SERTULARIA	CEL	5	2.9	655						
ELAKATOTHRIX	COL									X
EUGLENA	CEL		0.7	164		0.4	337		0.6	694
FLAGELLATE #2	CEL		1.0	229					0.5	521
FLAGELLATE #4	CEL						X			
FLAGELLATES	CEL				5	2.6	2024			

LAKE NAME: INDIAN LAKE
STORET NUMBER: 3515

CONTINUED

TAXA	FORM	05 04 73 S	05 04 73 %C	05 04 73 ALGAL UNITS PER ML	08 02 73 S	08 02 73 %C	08 02 73 ALGAL UNITS PER ML	10 11 73 S	10 11 73 %C	10 11 73 ALGAL UNITS PER ML
GLENODINIUM NEGLECTUM	CEL						X			
GLOEOCYSTIS	COL			X						
GOMPHOSPHAERIA LACUSTRIS	COL						X			
GYMNODINIUM	CEL			X						
GYROSIGMA	CEL					0.1	67			X
GYROSIGMA MACRUM	CEL						X			
KIRCHNERIELLA	CEL		2.3	524					0.3	347
LAGERHEIMIA LONGISETA	CEL									X
LAGERHEIMIA QUADRISETA	CEL			X						
LEPOCINCLIS FUSIFORMIS	CEL						X			
LEPOCINCLIS OVUM	CEL						X			
LYNGBYA LAGERHEIMII	FIL			X		0.3	269			
LYNGBYA LIMNETICA	FIL					3.6	2833	1	38.2	41319
MELOSIRA DISTANS	CEL			X		0.3	269			
MELOSIRA GRANULATA	CEL			X		0.1	67			X
MELOSIRA GRANULATA V. ANGUSTISSIMA	CEL						X			
MELOSIRA GRANULATA V. ANGUSTISSIMA F. SPIRALIS	CEL								1.6	1736
MERISMOPEDIA GLAUCA	COL			X					1.3	1389
MERISMOPEDIA PUNCTATA	COL					0.8	607			
MERISMOPEDIA TENUISSIMA	COL		1.4	328		0.3	269	5	9.3	10069
MICROCYSTIS INCERTA	COL	2	5.4	1212		0.3	202	3	6.9	7465
NAVICULA #1	CEL		1.7	393		1.0	809		3.2	3472
NAVICULA #2	CEL			X		0.3	202			
NAVICULA PYGMAEA	CEL					0.3	269			
NITZSCHIA	CEL	4	8.5	1933	4	12.3	9713			
NITZSCHIA ACICULARIS	CEL			X						X
NITZSCHIA HOLSATICA	CEL			X					0.8	868
NITZSCHIA PALEA	CEL			X						X
NITZSCHIA SPP.	CEL							4	10.0	10764
OOCYSTIS	CEL		1.0	229		0.1	67			

LAKE NAME: INDIAN LAKE
STORET NUMBER: 3915

CONTINUED

TAXA	FORM	05 04 73 S	05 04 73 %C	05 04 73 ALGAL UNITS PER ML	08 02 73 S	08 02 73 %C	08 02 73 ALGAL UNITS PER ML	10 11 73 S	10 11 73 %C	10 11 73 ALGAL UNITS PER ML
OSCILLATORIA	FIL		1.4	328		0.9	675			
OSCILLATORIA #1	FIL				2	31.7	25024			
OSCILLATORIA LIMNETICA	FIL	1	43.6	9859				2	17.0	18403
PEDIASTRUM BORYANUM	COL						X			
PEDIASTRUM DUPLEX V. ?	COL									X
PEDIASTRUM DUPLEX V. RETICULATUM	COL						X			
PEDIASTRUM TETRAS V. TETRAODON	COL						X			
PERIDINIUM QUADRIDENS	CEL						X			
PHACUS ACUMINATUS	CEL					0.1	67			
PHACUS HELIKOIDES	CEL						X			
PHACUS MEGALOPSIS	CEL					.1	67			
PHACUS PLEURONECTES	CEL								0.2	174
PHACUS PYRUM	CEL									X
RAPHIDIOPSIS	FIL		5.1	1146						
RAPHIDIOPSIS CURVATA	FIL				1	34.2	26980		5.9	6424
SCENEDESMUS ABUNDANS	COL		2.2	491		0.6	472		0.3	347
SCENEDESMUS ACUMINATUS	COL									X
SCENEDESMUS BIJUGA	COL								0.2	174
SCENEDESMUS DIMORPHUS	COL		1.0	229		0.2	135		0.5	521
SCENEDESMUS QUADRICAUDA	COL			X		0.3	202		0.3	347
SCHROEDERIA SETIGERA	CEL		1.6	360			X		0.6	694
SELENASTRUM	CEL						X			
STAURASTRUM	CEL						X			
STAURASTRUM TETRACERUM	CEL									X
STEPHANODISCUS	CEL			X		0.3	269			
SURIRELLA	CEL			X						
SYNEDRA	CEL				3	6.0	4722			
TETRAEDRON	CEL									X
TETRAEDRON BIFURCATUM V. NUDUM	CEL						X			

LAKE NAME: INDIAN LAKE
STORET NUMBER: 3915

CONTINUED

TAXA	FORM	05 04 73 S	%C	ALGAL UNITS PER ML	08 02 73 S	%C	ALGAL UNITS PER ML	10 11 73 S	%C	ALGAL UNITS PER ML
TETRAEDRON CAUDATUM V. LONGISPINUM	CEL		1.0	229						X
TETRAEDRON MINIMUM	CEL						X			
TETRAEDRON MINIMUM V. SCROBICULATUM	CEL			X					0.6	694
TETRAEDRON MUTICUM	CEL						X			
TETRAEDRON PENTAEDRICUM	CEL						X			
TETRASTRUM HETERACANTHUM	COL						X			
TETRASTRUM STAUROGENIAEFORME	COL			X		0.3	202		0.2	174
TRACHELOMONAS	CEL						X			
TRACHELOMONAS LACUSTRIS	CEL						X			
TRACHELOMONAS PULCHELLA	CEL						X			
TRACHELOMONAS URCEOLATA	CEL					0.1	67			
TRACHELOMONAS VOLVOCINA	CEL					0.2	135			
TOTAL				22633			78974			108158

LAKE NAME: LORAMIE LAKE
STORET NUMBER: 3917

NYGAARD TROPHIC STATE INDICES

DATE	05 04 73	08 01 73	10 11 73
MYXOPHYCEAN	03/0 E	3.50 E	07/0 E
CHLOROPHYCEAN	09/0 E	9.50 E	09/0 E
EUGLENOPHYTE	0.42 E	0.31 E	0.31 E
DIATOM	0.86 E	1.33 E	1.00 E
COMPOUND	23/0 E	19.0 E	25/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 04 73	08 01 73	10 11 73
GENUS	27	25	23
SPECIES	07	07	09

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 04 73	08 01 73	10 11 73
AVERAGE DIVERSITY	H	3.06	3.13	3.84
NUMBER OF TAXA	S	39.00	56.00	34.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	5.29	5.81	5.09
TOTAL DIVERSITY	D	150001.20	119819.53	255740.16
TOTAL NUMBER OF INDIVIDUALS/ML	N	49020.00	38281.00	66599.00
EVENESS COMPONENT	J	0.58	0.54	0.75
MEAN NUMBER OF INDIVIDUALS/TAXA	L	1256.92	683.59	1958.79
NUMBER/ML OF MOST ABUNDANT TAXON	K	14070.00	14576.00	11063.00

LAKE NAME: LORAMIE LAKE
STORET NUMBER: 3517

CONTINUED

TAXA	FORM	05 04 73 S	05 04 73 %C	05 04 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 11 73 S	10 11 73 %C	10 11 73 ALGAL UNITS PER ML
ACTINASTRUM HANTZSCHII	CEL						X			
ANABAENOPSIS ELENKINII	FIL						X		0.7	438
ANKISTRODESMUS FALCATUS	CEL								2.8	1862
ANKISTRODESMUS FALCATUS V. MIRABILIS	CEL					0.4	147			
CHLAMYDOMONAS	CEL			X						
CHLORELLA ?	CEL	2	17.0	8312						
CHLOROGONIUM	CEL		0.1	56		0.6	221			
CHLOROPHYTAN COLONY	COL					1.0	368			
CHROOCOCCUS	COL						X			
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL			X			X			
COELASTRUM SPHAERICUM ?	COL						X			
COSMARIUM	CEL					0.2	74			
CRUCIGENIA TETRAPEDIA	COL						X		0.7	438
CRYPTOMONAS EROSA	CEL		2.1	1047	2	6.9	2650		3.1	2081
CRYPTOMONAS EROSA V. REFLEXA	CEL				5	1.2	442			
CRYPTOMONAS REFLEXA	CEL			X						
CYANOPHYTAN COLONY	COL					0.6	221			
CYCLOTELLA	CEL		3.9	1899		1.0	368			
CYCLOTELLA MENEGHINIANA	CEL			X				1	13.3	8872
DACTYLOCOCCOPSIS	CEL					1.9	736			
DACTYLOCOCCOPSIS IRREGULARIS	FIL							4	9.9	6572
DICHOTOMOCOCCUS	COL						X			
DICTYOSPHAERIUM PULCHELLUM	COL								0.2	110
EUGLENA	CEL		0.3	131					0.8	548
EUGLENA #1	CEL					0.6	221			
EUGLENA #2	CEL					0.6	221			
EUGLENA #3	CEL				3	0.8	294			
EUGLENA ACUS	CEL								0.2	110
EUGLENA GRACILIS ?	CEL			X						

LAKE NAME: LORAMIE LAKE
STORET NUMBER: 3917

CONTINUED

TAXA	FORM	05 04 73 S	05 04 73 %C	05 04 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 11 73 S	10 11 73 %C	10 11 73 ALGAL UNITS PER ML
EUGLENA CXYURIS	CEL						X			X
EUGLENA TRIPTERIS	CEL		0.3	131					6.2	4162
FLAGELLATE #1	CEL		4.5	2225						
FLAGELLATE #2	CEL		1.6	785			X		0.5	329
FLAGELLATE #4	CEL				4	27.1	10380			
FLAGELLATES	CEL					0.2	74			
GLENODINIUM	CEL		0.1	66					0.8	548
GYMNODINIUM	CEL			X						
GYMNODINIUM ORDINATUM	CEL					1.2	442			
KIRCHNERIELLA	CEL					0.6	221			
LUNATE CELL	CEL			X						X
MALLOMONAS	CEL								3.0	1972
MALLOMONAS ACAROIDES	CEL	1	28.7	14070		0.8	294		2.6	1753
MELOSIRA #4	CEL					3.5	1325			
MELOSIRA DISTANS	CEL								1.6	1095
MELOSIRA GRANULATA V. ANGUSTISSIMA F. SPIRALIS	CEL	4	15.2	7461					5.3	3505
MELOSIRA VARIANS	COL					1.0	368	3	12.5	8324
MERISMOPEDIA GLAUCA	COL		0.3	131		0.2	74			
MERISMOPEDIA TENUISSIMA	CEL								7.1	4710
MESOSTIGMA	COL									
MICROCYSTIS INCERTA	CEL			X						X
NAVICULA	CEL		0.4	196						
NAVICULA #1	CEL			X						
NAVICULA #2	CEL					1.0	368			X
NITZSCHIA	CEL									
NITZSCHIA #1	CEL		0.4	196						X
NITZSCHIA ACICULARIS	CEL		1.3	654						
NITZSCHIA HOLSATICA	CEL			X						
NITZSCHIA PALEA	CEL			X						
OOCYSTIS	CEL					0.8	294	2	16.6	11063
OSCILLATORIA	FIL									

LAKE NAME: LORAMIE LAKE
STORET NUMBER: 3917

CONTINUED

TAXA	FORM	05 04 73 S	05 04 73 %C	05 04 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 11 73 S	10 11 73 %C	10 11 73 ALGAL UNITS PER ML
OSCILLATORIA LIMNETICA	FIL	5	9.1	4450						
PEDIASTRUM DUPLEX V. RETICULATUM	COL					0.4	147			
PENNATE DIATOMS	CEL					1.5	00589			
PHACUS	CEL					0.2	74			
PHACUS PSEUDONORDSTEDTII	CEL						X		0.2	110
PTERCMONAS	CEL					3.1	1178			
RAPHIDIOPSIS	FIL		0.8	393						
RAPHIDIOPSIS CURVATA	FIL					1.0	368			
RAPHIDIOPSIS CURVATA ?	FIL								0.2	110
SCENEDESMUS ABUNDANS	COL			X		0.2	74			
SCENEDESMUS BICAUDATUS	COL					0.4	147			
SCENEDESMUS BIJUGA	COL		0.4	196			X		0.3	219
SCENEDESMUS DENTICULATUS	COL					0.2	74			
SCENEDESMUS DIMORPHUS	COL		0.1	66		0.4	147		0.3	219
SCENEDESMUS PROTUBERANS	COL						X			
SCENEDESMUS QUADRICAUDA	COL		0.3	131		0.2	74		1.3	876
SCENEDESMUS SPP.	COL					0.8	294			
SCHROEDERIA SETIGERA	CEL						X		0.7	438
SPERMATOZOOPSIS	CEL					0.4	147			
STAURASTRUM	CEL						X			
STEPHANODISCUS	CEL	3	12.5	6152	1	38.1	14576			
STEPHANODISCUS ASTRAEA	CEL			X						
SYNEDRA	CEL		0.4	196		0.4	147			
SYNEDRA #1	CEL							5	7.9	5258
TETRAEDRON MINIMUM	CEL						X			
TETRAEDRON MINIMUM V. SCROBICULATUM	COL		0.1	66						
TETRAEDRON MUTICUM	CEL					0.6	221			
TETRASTRUM HETERACANTHUM	COL								0.3	219
TETRASTRUM STAUROGENIAEFORME	COL			X		0.4	147			
TRACHELOMONAS PULCHELLA	CEL			X			X			

LAKE NAME: LORAMIE LAKE CONTINUED
STORET NUMBER: 3917

TAXA	FORM	05 04 73 S	%C	ALGAL UNITS PER ML	08 01 73 S	%C	ALGAL UNITS PER ML	10 11 73 S	%C	ALGAL UNITS PER ML
TRACHELOMONAS URCEOLATA	CEL			X						
TRACHELOMONAS URCEOLATA ?	CEL					0.2	74			
TRACHELOMONAS VOLVOCINA	CEL								0.5	329
TREUBARIA SETIGERUM	CEL								0.5	329
TREUBARIA TRIAPPENDICULATA	CEL						X			
TOTAL				49020			38281			66599

LAKE NAME: MOSQUITO CREEK RES.
STORET NUMBER: 3921

NYGAARD TROPHIC STATE INDICES

DATE	04 21 73	07 30 73	10 09 73
MYXOPHYCEAN	5.00 E	2.25 E	2.67 E
CHLOROPHYCEAN	18.0 E	5.75 E	9.33 E
EUGLENOPHYTE	0.13 ?	0.16 ?	0.03 ?
DIATOM	0.33 E	0.43 E	0.32 E
COMPOUND	28.0 E	10.0 E	14.3 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 21 73	07 30 73	10 09 73
GENUS	21	23	19
SPECIES	00	05	07

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 21 73	07 30 73	10 09 73
AVERAGE DIVERSITY	H	3.67	3.49	4.43
NUMBER OF TAXA	S	41.00	57.00	68.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	5.36	5.83	6.09
TOTAL DIVERSITY	D	88696.56	311845.46	93415.41
TOTAL NUMBER OF INDIVIDUALS/ML	N	24168.00	89354.00	21087.00
EVENESS COMPONENT	J	0.68	0.60	0.73
MEAN NUMBER OF INDIVIDUALS/TAXA	L	589.46	1567.61	310.10
NUMBER/ML OF MOST ABUNDANT TAXON	K	4802.00	27076.00	2220.00

LAKE NAME: MOSQUITO CREEK RES. CONTINUED
STORET NUMBER: 3921

TAXA	FORM	04 21 73 S	04 21 73 %C	04 21 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL								0.2	48
ACTINASTRUM	CEL		2.3	556						
ANABAENA	FIL					3.1	2798			
ANABAENA #1	FIL								0.9	193
ANKISTRODESMUS	CEL					1.4	1264			
ANKISTRODESMUS ?	CEL		1.0	238						
ANKISTRODESMUS FALCATUS	CEL						X		1.8	385
ASTERIONELLA ? FORMOSA	CEL						X			
ASTERIONELLA FORMOSA	CEL		3.0	714						X
ASTERIONELLA FORMOSA V. GRACILLIMA	CEL			X						
CERATIUM HIRUNDINELLA F. BRACHYCERAS	CEL					0.1	90			
CHLOROGONIUM	CEL					0.6	542			
CHLOROGONIUM ELONGATUM	CEL								0.2	48
COCCONEIS	CEL						X			
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL			X		0.3	271			
COSMARIUM	CEL					0.5	451		0.5	96
COSMARIUM #2	CEL						X			
CRUCIGENIA FENESTRATA	COL					0.8	722			
CRUCIGENIA RECTANGULARIS	COL								0.9	193
CRUCIGENIA TETRAPEDIA	COL			X		0.7	632		1.4	289
CRYPTOMONAS EROSA	CEL	3	8.5	2064		0.7	632			X
CYCLOTELLA STELLIGERA	CEL							1	10.5	2220
CYMBELLA	CEL			X			X			X
DACTYLOCOCCOPSIS	CEL		7.2	1746		1.0	903			
DACTYLOCOCCOPSIS IRREGULARIS	CEL							4	8.0	1685
DIATOMA	CEL						X			
DICTYOSPHAERIUM	COL		0.5	119						
EUASTRUM	CEL								0.7	144
EUASTRUM DENTICULATUM	CEL					0.3	271			X

LAKE NAME: MOSQUITO CREEK RES. CONTINUED
STORET NUMBER: 3921

TAXA	FORM	04 21 73 S	04 21 73 %C	04 21 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
EUASTRUM DENTICULATUM ?	CEL			X						
EUGLENA	CEL		0.3	79		0.1	90			
FLAGELLATE	CEL			X						
FLAGELLATE #1	CEL	4	10.5	2540		0.6	542			
FLAGELLATE #2	CEL		8.2	1984						
FRANCEIA DROESCHERI	CEL					0.2	181			
GOLENKINIA	CEL		1.3	318						
GOLENKINIA RADIATA	CEL								0.2	48
GOMPHONEMA PARVULUM	CEL									X
GYMNODINIUM	CEL			X						
GYROSIGMA KUTZINGII	CEL									X
KIRCHNERIELLA	CEL		1.6	397					1.6	337
KIRCHNERIELLA CONTORTA	CEL									X
LAGERHEIMIA QUADRISETA	CEL		0.5	119						
LAGERHEIMIA SUBSALSA	CEL								0.5	96
LYNGBYA CONTORTA	FIL				2	16.5	14711		0.9	193
MALLOMONAS	CEL		0.2	40						
MALLOMONAS ACAROIDES	CEL			X		0.1	90		0.2	48
MELOSIRA DISTANS	CEL		0.3	79		4.0	3610	3	9.8	2070
MELOSIRA GRANULATA	CEL		2.5	595		2.8	2527			X
MELOSIRA ITALICA	CEL								4.3	915
MELOSIRA VARIANS	CEL									X
MERISMOPEDIA	COL		2.5	595						
MERISMOPEDIA GLAUCA	COL			X		0.3	271		0.2	48
MERISMOPEDIA TENUISSIMA	COL				5	7.2	6408		1.8	385
MICRACTINIUM	COL		0.7	159						
MICROCYSTIS INCERTA	COL	1	18.1	4365	3	8.1	7220		4.1	866
NAVICULA #1	CEL			X						X
NAVICULA #3	CEL									X
NAVICULA GASTRUM	CEL									X
NAVICULA PYGMAEA	CEL									X
NITZSCHIA	CEL								0.7	144

LAKE NAME: MOSQUITO CREEK RES. CONTINUED
STORET NUMBER: 3921

TAXA	FORM	04 21 73 S	04 21 73 %C	04 21 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
NITZSCHIA #1	CEL									X
NITZSCHIA #2	CEL									X
NITZSCHIA #3	CEL					0.4	361			X
NITZSCHIA ACICULARIS	CEL					0.4	361			
NITZSCHIA HOLSATICA	CEL					2.1	1895			
NITZSCHIA HOLSATICA ?	CEL									X
COCYSTIS	CEL			X		0.2	181			X
OSCILLATORIA LIMNETICA	FIL	5	5.6	1349	1	30.3	27076		6.8	1444
PEDIASTRUM	COL			X						
PEDIASTRUM BORYANUM	COL		2.0	476		0.2	181		0.2	48
PEDIASTRUM CUPLEX	COL									X
PEDIASTRUM CUPLEX V. CLATHRATUM	COL						X			
PEDIASTRUM CUPLEX V. RETICULATUM	COL								0.2	48
PEDIASTRUM TETRAS	COL									X
PENNATE DIATOM	CEL									X
PENNATE DIATOMS	CEL								2.5	530
PERIDINIUM QUADRIDENS	CEL						X			
PHACUS #1	CEL			X						
PHACUS #2	CEL			X						
PHACUS CURVICAUDA	CEL					0.1	90			
PHACUS PSEUDONORDSTEDTII	CEL					0.1	90			
RAPHIDIOPSIS	FIL					2.4	2166			
RAPHIDIOPSIS CURVATA	FIL						X	5	6.6	1396
SCENEDESMUS ABUNDANS	COL		2.0	476		0.3	271		0.2	48
SCENEDESMUS ARCUATUS	COL					0.2	181		0.7	144
SCENEDESMUS BICAUDATUS	COL		0.2	40		0.4	361		3.0	626
SCENEDESMUS BIJUGA	COL					0.3	271		2.5	00529
SCENEDESMUS DIMORPHUS	COL			X			X		1.6	337
SCENEDESMUS ECORNIS V. DISCIFORMIS	COL									X

LAKE NAME: MOSQUITO CREEK RES. CONTINUED
STORET NUMBER: 3921

TAXA	FORM	04 21 73 S	04 21 73 %C	04 21 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
SCENEDESMUS QUADRICAUDA	COL			X		0.3	271	2	10.3	2166
SCHROEDERIA SETIGERA	CEL		0.7	159					8.9	1877
STAURASTRUM	CEL						X			
STEPHANODISCUS ASTRAEA	CEL				4	11.9	10650		2.3	481
SURIRELLA OVATA	CEL									X
SYNEDRA	CEL								1.8	385
SYNEDRA #1	CEL									X
SYNEDRA SPP.	CEL	2	19.9	4802						
TETRAEDRON CAUDATUM V. LONGISPINUM	CEL						X			
TETRAEDRON GRACILE	CEL						X		0.2	48
TETRAEDRON MINIMUM	CEL								0.2	48
TETRAEDRON MINIMUM V. SCROBICULATUM	CEL						X			
TETRAEDRON MUTICUM	CEL					0.1	90		0.2	48
TETRAEDRON REGULARE ?	CEL						X			
TETRAEDRON TRIGONUM	CEL						X			X
TETRASTRUM ELEGANS	COL								0.2	48
TETRASTRUM HETERACANTHUM	COL									X
TETRASTRUM STAUROGENIAEFORME	COL		0.7	159		0.6	542		1.1	241
TRACHELOMONAS PULCHELLA	CEL						X		0.2	48
TRACHELOMONAS VOLVOCINA	CEL					0.1	90			
TREUBARIA SETIGERUM	CEL						X			
TREUBARIA TRIAPPENDICULATA ?	CEL								0.5	96
TOTAL				24168			89354			21087

LAKE NAME: PLEASANT HILL LAKE
STORET NUMBER: 3924

NYGAARD TROPHIC STATE INDICES

DATE	04 21 73	07 30 73	10 06 73
MYXOPHYCEAN	5.00 E	1.67 E	8.00 E
CHLOROPHYCEAN	7.00 E	3.00 E	23.0 E
EUGLENOPHYTE	0.33 E	0.29 E	0.06 ?
DIATOM	0.27 ?	0.60 E	0.50 E
COMPOUND	20.0 E	7.00 E	40.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 21 73	07 30 73	10 06 73
GENUS	14	19	09
SPECIES	00	06	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 21 73	07 30 73	10 06 73
AVERAGE DIVERSITY	H	2.53	3.76	3.99
NUMBER OF TAXA	S	45.00	41.00	65.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	5.49	5.36	6.02
TOTAL DIVERSITY	D	45193.39	26880.24	42804.72
TOTAL NUMBER OF INDIVIDUALS/ML	N	17863.00	7149.00	10728.00
EVENESS COMPONENT	J	0.46	0.70	0.66
MEAN NUMBER OF INDIVIDUALS/TAXA	L	396.96	174.37	165.05
NUMBER/ML OF MOST ABUNDANT TAXON	K	8274.00	1646.00	1696.00

LAKE NAME: PLEASANT HILL LAKE CONTINUED
STORET NUMBER: 3924

TAXA	FORM	04 21 73 S	04 21 73 %C	04 21 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 06 73 S	10 06 73 %C	10 06 73 ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA	CEL									X
ACHNANTHES MICROCEPHALA	CEL		0.3	55					0.7	73
ACTINASTRUM	CEL									X
ANABAENA	FIL								0.4	48
ANKISTRODESMUS	CEL								0.9	97
ANKISTRODESMUS ?	CEL		0.4	78		2.3	00165			
APHANIZOMENON FLOS-AQUAE	FIL					0.5	33			
APHANOTHECE CLATHRATA ?	COL	1	46.3	8274						
ASTERIONELLA FORMOSA	CEL			X						
ASTERIONELLA FORMOSA V. GRACILLIMA	CEL		0.6	107						
CENTRIC DIATOMS	CEL								0.7	73
CERATIUM HIRUNDINELLA F. BRACHYCERAS	CEL					0.5	33			X
CHLAMYDOMONAS	CEL			X						
CHLOROGONIUM MINIMUM ?	CEL									X
CLOSTERIUM	CEL			X		0.5	33		0.2	24
COELASTRUM	COL					0.5	33			
COELASTRUM SPHAERICUM	COL			X						
COSMARIUM	CEL					2.3	165			
CRUCIGENIA APICULATA	COL									X
CRUCIGENIA TETRAPEDIA	COL								0.7	73
CRYPTOMONAS	CEL									X
CRYPTOMONAS EROSA	CEL		1.0	178	1	23.0	1646	1	2.5	266
CRYPTOMONAS REFLEXA	CEL			X		0.9	66			
CYANOPHYTAN FILAMENT	FIL			X						
CYCLOTELLA MENEGHINIANA	CEL				2	18.4	1317			X
CYCLOTELLA STELLIGERA	CEL									X
CYMBELLA	CEL			X						X
CYMBELLA TURGIDA	CEL			X						
DACTYLOCOCCOPSIS	CEL			X					1.4	145
DACTYLOCOCCOPSIS IRREGULARIS	CEL		2.4	431		1.8	132			

LAKE NAME: PLEASANT HILL LAKE
STORET NUMBER: 3924

CONTINUED

TAXA	FORM	04 21 73 S	04 21 73 %C	04 21 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 06 73 S	10 06 73 %C	10 06 73 ALGAL UNITS PER ML
DINOBRYON	CEL			X						
DINOBRYON SERTULARIA	CEL						X			
DINOFLAGELLATE CYST	CEL					0.5	33			
ELAKATOTHRIX ?	COL									X
ELAKATOTHRIX ? GELATINOSA	CEL						X			
EUGLENA	CEL		0.1	26					0.2	24
EUGLENA #1	CEL					2.3	165			
EUGLENA GRACILIS	CEL			X						
EUGLENA OXYURIS	CEL						X			
EUGLENOID	CEL			X						
FLAGELLATE #1	CEL	5	10.0	1792	3	12.9	922		14.9	1599
FLAGELLATE #2	CEL					4.6	329			
FLAGELLATE #4	CEL								0.2	24
FRAGILARIA	CEL									X
FRANCEIA DROESCHERI	CEL									X
GLENODINIUM	CEL			X						
GLENODINIUM GYMNODINIUM	CEL						X			
GLENODINIUM PENARDIFORME	CEL					0.5	33			
GYMNODINIUM ORDINATUM	CEL		0.1	15		2.3	165			
GYMNODINIUM ORDINATUM ?	CEL								0.2	24
GYROSIGMA	CEL									X
KIRCHNERIELLA	CEL								7.4	799
KIRCHNERIELLA CONTORTA ?	COL					0.9	66			
LAGERHEIMIA	CEL									X
LAGERHEIMIA QUADRISETA	CEL								0.4	48
LYNGBYA	FIL								0.2	24
MALLOMONAS ACAROIDES	CEL			X			X			
MELOSIRA #4	CEL							5	15.8	1696
MELOSIRA DISTANS	CEL		2.1	371	5	5.5	495	3	9.7	1042
MELOSIRA ITALICA	CEL					0.9	66		2.9	315
MELOSIRA ITALICA ?	CEL		0.6	104						
MELOSIRA VARIANS	CEL			X						

LAKE NAME: PLEASANT HILL LAKE
STORET NUMBER: 3924

CONTINUED

TAXA	FORM	04 21 73 S	04 21 73 %C	04 21 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 06 73 S	10 06 73 %C	10 06 73 ALGAL UNITS PER ML
MERISMOPEDIA PUNCTATA	COL									X
MERISMOPEDIA TENUISSIMA	COL					2.3	165		1.1	121
MESOSTIGMA VIRIDIS	CEL							4	5.2	557
MICROCYSTIS ?	COL								0.4	48
MICROCYSTIS INCERTA	COL					0.9	66			
NAVICULA #1	CEL			X						X
NAVICULA #2	CEL			X			X			X
NAVICULA TRIPUNCTATA	CEL		1.1	192						
NITZSCHIA	CEL		0.3	46						
NITZSCHIA #1	CEL			X						
NITZSCHIA #2	CEL									X
NITZSCHIA #3	CEL									X
NITZSCHIA #4	CEL					2.3	165			
NITZSCHIA #5	CEL					0.9	66			
OSCILLATORIA LIMNETICA	FIL									
OSCILLATORIA LIMNETICA ?	FIL	3	10.6	1894					0.2	24
PENNATE DIATOM	CEL		0.1	15						
PENNATE DIATOMS	CEL									
PERIDINIUM	CEL			X					2.7	291
PERIDINIUM QUADRIDENS	CEL					2.3	165			
PHACUS CURVICAUDA	CEL						X			
PHACUS PSEUDONORDSTEDTII	CEL		0.1	12						
RAPHIDIOPSIS CURVATA	FIL				4	6.9	494		1.8	194
RHOICOSPHENIA CURVATA	CEL			X						
SCENEDESMUS ABUNDANS	COL		0.1	23					0.9	97
SCENEDESMUS BICAUDATUS	COL						X		0.2	24
SCENEDESMUS BIJUGA	COL									X
SCENEDESMUS DENTICULATUS	COL						X		0.7	73
SCENEDESMUS DIMORPHUS	COL		0.1	26		0.5	33		0.4	48
SCENEDESMUS INTERMEDIUS	COL									X
SCENEDESMUS QUADRICAUDA	COL			X		0.9	66			
SCENEDESMUS QUADRICAUDA V. LONGISPINA	COL									X

LAKE NAME: PLEASANT HILL LAKE CONTINUED
STORET NUMBER: 3924

TAXA	FORM	04 21 73 S	04 21 73 %C	04 21 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 06 73 S	10 06 73 %C	10 06 73 ALGAL UNITS PER ML
SCENEDESMUS SPP.	COL								2.7	291
SCHROEDERIA SETIGERA	CEL									X
SPIRAL CELL	CEL								9.9	1066
STAURASTRUM	CEL					0.5	33			
STEPHANODISCUS	CEL							2	10.8	1163
STEPHANODISCUS ASTRAEA	CEL	2	14.6	2600						
SYNEDRA	CEL	4	9.0	1609		0.9	66		1.4	145
SYNEDRA DELICATISSIMA V. ANGUSTISSIMA	CEL			X						
SYNEDRA DELICATISSIMA V. ANGUSTISSIMA ?	CEL									X
SYNEDRA PARASITICA V. SUBCONSTRICTA	CEL									X
SYNEDRA ULNA	CEL			X			X			
SYNEDRA ULNA V. RAMESI	CEL									X
TETRAEDRON CAUDATUM	CEL								0.2	24
TETRAEDRON GRACILE	CEL									X
TETRAEDRON MINIMUM	CEL		0.1	15						
TETRAEDRON MINIMUM V. SCROBICULATUM	CEL								0.2	24
TETRAEDRON TRIGONUM	CEL					0.5	33			
TETRASTRUM ELEGANS	COL			X					0.4	48
TETRASTRUM STAUROGENIAEFORME	COL								0.2	24
TRACHELOMONAS PULCHELLA	CEL								0.2	24
TRACHELOMONAS VOLVOCINA	CEL						X			
TREUBARIA TRIAPPENDICULATA	CEL								0.4	48
TOTAL				17863			7149			10728

LAKE NAME: GRAND LAKE
STCRET NUMBER: 3927

NYGAARD TROPHIC STATE INDICES

DATE	05 04 73	08 01 73	10 11 73
MYXOPHYCEAN	4.00 E	4.00 E	4.33 E
CHLOROPHYCEAN	13.0 E	9.67 E	6.67 E
EUGLENOPHYTE	0.21 E	0.15 ?	0.27 E
DIATOM	0.20 ?	1.00 E	0.75 E
COMPOUND	21.5 E	16.6 E	13.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 04 73	08 01 73	10 11 73
GENUS	20	21	26
SPECIES	04	00	11

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		05 04 73	08 01 73	10 11 73
AVERAGE DIVERSITY	H	2.59	3.33	3.76
NUMBER OF TAXA	S	58.00	62.00	58.00
NUMBER OF SAMPLES COMPOSITED	M	4.00	4.00	4.00
MAXIMUM DIVERSITY	MAXH	5.86	5.95	5.86
TOTAL DIVERSITY	D	301631.40	170402.76	99083.52
TOTAL NUMBER OF INDIVIDUALS/ML	N	116460.00	51172.00	26352.00
EVENESS COMPONENT	J	0.44	0.56	0.64
MEAN NUMBER OF INDIVIDUALS/TAXA	L	2007.93	824.35	454.34
NUMBER/ML OF MOST ABUNDANT TAXON	K	65396.00	16260.00	6827.00

LAKE NAME: GRAND LAKE
STORET NUMBER: 3927

CONTINUED

TAXA	FORM	05 04 73 S	05 04 73 %C	05 04 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 11 73 S	10 11 73 %C	10 11 73 ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA V. DUBIA	CEL			X						
ACTINASTRUM	CEL		0.5	610		0.8	407			
ANABAENA	FIL					3.8	1931			
ANABAENOPSIS	FIL								1.3	341
ANABAENOPSIS PHILIPPINENSIS	FIL				2	18.3	9350			
ANABAENOPSIS TANGANYIKAE	FIL					0.8	407			
ANKISTRODESMUS	CEL		1.6	1829			X			
ANKISTRODESMUS FALCATUS	CEL								1.0	273
APHANIZOMENON FLOS-AQUAE	FIL								6.2	1638
APHANOTHECE CLATHRATA ?	COL									X
BOTRYOCOCCUS BRAUNII	COL			X						
CENTRIC DIATOM	CEL					0.1	51			
CHLORELLA VULGARIS	CEL								0.3	68
CHLOROGONIUM	CEL						X			
CHROOCOCCUS	COL			X						
CLOSTERIUM	CEL		0.7	762			X			X
COCCOID CELL	CEL								0.3	68
COELASTRUM CAMBRICUM	COL			X						
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL						X			X
COELASTRUM RETICULATUM	COL						X			
COELASTRUM SPHAERICUM	COL		0.5	610						
COSMARIUM	CEL					0.4	203			X
CRUCIGENIA APICULATA	COL						X			
CRUCIGENIA TETRAPEDIA	COL						X			
CRYPTOMONAS	CEL						X			
CRYPTOMONAS EROSA	CEL								4.9	1297
CYCLOTELLA MENEGHINIANA	CEL			X						
CYMATOPLEURA SOLEA	CEL		0.1	152						
CYMBELLA	CEL			X						
DACTYLOCOCCOPSIS	CEL					0.4	203			

LAKE NAME: GRAND LAKE
STORET NUMBER: 3927

CONTINUED

TAXA	FORM	05 04 73 S	05 04 73 %C	05 04 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 11 73 S	10 11 73 %C	10 11 73 ALGAL UNITS PER ML
DACTYLOCOCCOPSIS IRREGULARIS	CEL							3	10.4	2731
DACTYLOTHECE	COL									X
DICTYOSPHAERIUM PULCHELLUM	CEL		0.4	457		0.2	102		1.3	341
ELAKATOTHRIX	CEL						X			
EUGLENA	CEL			X					0.5	137
EUGLENA #1	CEL					0.4	203			X
EUGLENA #3	CEL					0.8	407			
EUGLENA GRACILIS	CEL									X
EUGLENA PISCIFORMIS ?	CEL									X
EUNOTIA PECTINALIS	CEL			X						
FLAGELLATE	CEL									X
FLAGELLATE #3	CEL									X
FLAGELLATES	CEL	3	6.5	7622		2.7	1372			
FRAGILARIA CROTONENSIS	CEL			X						
FRAGILARIA PINNATA	CEL	2	13.2	15396						
FRANCEIA	CEL						X			
GLOEOCYSTIS	CEL			X						
GOMPHOSPHAERIA LACUSTRIS	COL		0.3	305			X			
GYMNODINIUM ORDINATUM	CEL			X						X
GYROSIGMA	CEL									X
GYROSIGMA ?	CEL						X			
LAGERHEIMIA	CEL		0.3	305						
LAGERHEIMIA SUBSALSA	CEL									X
LEPOCINCLIS	CEL			X						
LEPOCINCLIS OVUM	CEL									X
LYNGBYA	FIL		0.3	305				2	12.2	3209
LYNGBYA CONTORTA	FIL							1	25.9	6827
LYNGBYA LAGERHEIMII	FIL		1		4	6.5	3303			
LYNGBYA LIMNETICA	FIL				1	31.8	16260			
MALLOMONAS ACAROIDES	CEL								0.8	205
MELOSIRA DISTANS	CEL								2.6	683
MELOSIRA GRANULATA	CEL									X

LAKE NAME: GRAND LAKE
STORET NUMBER: 3927

CONTINUED

TAXA	FORM	05 04 73 S	05 04 73 %C	05 04 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 11 73 S	10 11 73 %C	10 11 73 ALGAL UNITS PER ML
MELOSIRA GRANULATA V. ANGUSTISSIMA	CEL					0.2	102			
MELOSIRA VARIANS	CEL								0.3	68
MERISMOPEDIA GLAUCA	COL								0.5	137
MERISMOPEDIA TENUISSIMA	COL		0.3	305		4.3	2185		1.8	478
MESOSTIGMA	CEL					0.2	102			
MICRACTINIUM PUSILLUM	COL			X						
MICROCYSTIS AERUGINOSA	COL		0.1	152		0.4	203		2.8	751
MICROCYSTIS INCERTA	COL		1.0	1220		0.9	457	4	8.3	2185
MOUGEOTIA	FIL						X			
NAVICULA	CEL								0.5	137
NITZSCHIA	CEL			X	5	6.0	3049			
NITZSCHIA #1	CEL		0.7	762						
NITZSCHIA #2	CEL									X
NITZSCHIA ACICULARIS	CEL						X			
OOCYSTIS	CEL		0.7	762			X			
OSCILLATORIA	FIL		1.2	1372		1.3	661			X
OSCILLATORIA LIMNETICA	FIL	1	59.2	65396	3	10.9	5589	5	7.3	1911
PEDIASTRUM BORYANUM	COL		0.1	152			X			
PEDIASTRUM DUPLEX V. RETICULATUM	COL		0.1	152		0.1	51			X
PEDIASTRUM SIMPLEX	COL						X			X
PEDIASTRUM SIMPLEX V. DUODENARIUM	COL			X						
PEDIASTRUM TETRAS	COL									X
PEDIASTRUM TETRAS V. TETRAODON	COL			X			X			
PERIDINIUM QUADRIDENS	CEL						X			
PHACUS	CEL		0.1	152						
PHACUS ACUMINATUS	CEL									X
PHACUS CAUDATUS	CEL			X		0.2	102			
PHACUS HELIKOIDES	CEL					0.1	51			

LAKE NAME: GRAND LAKE
STORET NUMBER: 3927

CONTINUED

TAXA	FORM	05 04 73 S	05 04 73 %C	05 04 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 11 73 S	10 11 73 %C	10 11 73 ALGAL UNITS PER ML
PHACUS MEGALOPSIS	CEL		0.1	152		0.1	51			X
PHACUS PYRUM	CEL									X
POLYEDRIOPSIS SPINULOSA	CEL						X			
RAPHIDIOPSIS CURVATA	FIL								4.4	1161
SCENEDESMUS	COL						X			
SCENEDESMUS ABUNDANS	COL		1.3	1524		1.8	915			
SCENEDESMUS ACUMINATUS	COL		0.3	305		0.3	152		0.3	68
SCENEDESMUS ARCUATUS V. PLATYDISCA	COL									X
SCENEDESMUS BICAUDATUS	COL						X			
SCENEDESMUS BIJUGA	COL			X						X
SCENEDESMUS BIJUGA V. FLEXUOSUS	COL					0.1	51			
SCENEDESMUS DIMORPHUS	COL		1.2	1372		0.3	152		0.5	137
SCENEDESMUS INTERMEDIUS	COL		0.3	305						
SCENEDESMUS OPOLIENSIS	COL			X						
SCENEDESMUS PROTUBERANS	COL					0.2	102			
SCENEDESMUS QUADRICAUDA	COL		1.8	2134					1.0	273
SCHROEDERIA SETIGERA	CEL			X					1.3	341
SELENASTRUM BIBRAIANUM ?	CEL									X
STAURASTRUM	CEL									X
STAURASTRUM #1	CEL		0.3	305						
STAURASTRUM TETRACERUM	CEL						X			
STEPHANODISCUS	CEL	4	5.8	6707		5.4	2744			
SYNEDRA	CEL	5	2.9	3354						
SYNEDRA #1	CEL			X					1.3	341
TETRAEDRON BIFURCATUM V. NUDUM	CEL						X			
TETRAEDRON CAUDATUM	CEL			X						
TETRAEDRON CAUDATUM V. LONGISPINUM	CEL								0.3	68
TETRAEDRON MINIMUM	CEL		0.5	610		0.3	152		0.5	137

LAKE NAME: GRAND LAKE CONTINUED
STORET NUMBER: 3927

TAXA	FORM	05 04 73 S	%C	ALGAL UNITS PER ML	08 01 73 S	%C	ALGAL UNITS PER ML	10 11 73 S	%C	ALGAL UNITS PER ML
TETRAEDRON PENTAEDRICUM	CEL					0.1	51			
TETRAEDRON PLANCTONICUM	CEL		0.1	152						
TETRAEDRON REGULARE V. INCUS	CEL		0.1	152						
TETRAEDRON TRIGONUM	CEL						X		0.3	68
TETRAEDRON TRIGONUM V. GRACILE	CEL						X			
TETRASTRUM HETERACANTHUM	COL					0.1	51			
TETRASTRUM STAUROGENIAEFORME	COL		0.5	610			X		0.8	205
TRACHELOMONAS PULCHELLA	CEL						X			
TRACHELOMONAS PULCHELLA ?	CEL			X						
TRACHELOMONAS VOLVOCINA	CEL			X					0.3	68
TOTAL				116460			51172			26352

LAKE NAME: ATWOOD RESERVOIR
STORET NUMBER: 3928

NYGAARD TROPHIC STATE INDICES

DATE	04 20 73	07 30 73	10 09 73
MYXOPHYCEAN	01/0 E	4.00 E	2.00 E
CHLOROPHYCEAN	05/0 E	7.50 E	7.00 E
EUGLENOPHYTE	0.50 E	0.17 ?	0.17 ?
DIATOM	0.50 E	1.50 E	2.00 E
COMPOUND	14/0 E	18.0 E	12.5 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 20 73	07 30 73	10 09 73
GENUS	10	16	22
SPECIES	00	00	07

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 20 73	07 30 73	10 09 73
AVERAGE DIVERSITY	H	3.09	3.42	3.68
NUMBER OF TAXA	S	29.00	51.00	39.00
NUMBER OF SAMPLES COMPOSITED	M	4.00	4.00	4.00
MAXIMUM DIVERSITY	MAXH	4.86	5.67	5.25
TOTAL DIVERSITY	D	10487.46	71590.86	15330.88
TOTAL NUMBER OF INDIVIDUALS/ML	N	3394.00	20933.00	4166.00
EVENESS COMPONENT	J	0.64	0.60	0.70
MEAN NUMBER OF INDIVIDUALS/TAXA	L	117.03	410.45	109.63
NUMBER/ML OF MOST ABUNDANT TAXON	K	973.00	5656.00	1147.00

LAKE NAME: ATWOOD RESERVOIR
STORET NUMBER: 3528

CONTINUED

TAXA	FORM	04 20 73 S	04 20 73 %C	04 20 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA V. DUBIA	CEL			X						
ACHNANTHES MICROCEPHALA	CEL					4.6	969		1.2	52
ACTINASTRUM HANTZSCHII	CEL					0.9	187			
ANABAENA	FIL					0.1	31			
ANKISTRODESMUS	CEL		3.1	106						
ANKISTRODESMUS FALCATUS	CEL								3.7	156
APHANOCAPSA	COL					0.1	31			
CARTERIA	CEL								2.5	104
CENTRIC DIATOM	CEL	3	14.1	480		3.3	687			
CENTRIC DIATOMS	CEL					4.0	844			
CHLAMYDOMONAS	CEL								1.2	52
CHLOROGONIUM	CEL								2.5	104
CHLOROGONIUM ?	CEL					0.7	156			
CHROCCOCCUS MINUTUS	COL					2.4	500			
CHRYSOCOCCUS ?	COL									X
CLOSTERIUM	CEL								1.2	52
COELASTRUM SPHAERICUM	COL					0.1	31			X
CRUCIGENIA APICULATA	COL						X			X
CRYPTOMONAS	CEL									X
CRYPTOMONAS EROSA	CEL	2	17.9	608	3	4.5	937			
CYCLOTELLA	CEL			X						
CYCLOTELLA MENEGHINIANA	CEL						X			
CYCLOTELLA STELLIGERA	CEL			X			X	2	6.3	261
CYMBELLA	CEL			X			X			
DICTYOSPHAERIUM PULCHELLUM	COL									X
EUASTRUM	CEL					0.1	31			X
EUASTRUM DENTICULATUM ?	CEL						X			
EUGLENA	CEL		1.0	35			X			X
EUGLENA GRACILIS	CEL						X			
FLAGELLATE #1	CEL		7.0	237					3.7	156
FLAGELLATE #4	CEL						X			

LAKE NAME: ATWOOD RESERVOIR
STORET NUMBER: 3529

CONTINUED

TAXA	FORM	04 20 73 S	04 20 73 %C	04 20 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
FLAGELLATES	CEL	5	7.7	262	5	15.1	3156		7.5	313
FRAGILARIA	CEL			X						
GLENODINIUM	CEL		3.5	119		0.1	31			
GLENODINIUM PULVISCULUS ?	CEL									X
KIRCHNERIELLA ?	CEL					0.4	94			
MALLOMONAS	CEL		0.4	15						
MELOSIRA #4	CEL									X
MELOSIRA DISTANS	CEL	1	28.7	973	4	10.4	2187	1	27.5	1147
MELOSIRA GRANULATA	CEL						X			
MELOSIRA GRANULATA V. ANGUSTISSIMA	CEL				1	14.3	3000		2.5	104
MELOSIRA GRANULATA V. ANGUSTISSIMA F. SPIRALIS	CEL						X			
MERISMOPEDIA TENUISSIMA	COL					4.2	875		1.2	52
MESOSTIGMA	CEL						X			X
MICROCYSTIS INCERTA	COL						X		6.3	261
NAVICULA	CEL						X			
NAVICULA #1	CEL		0.6	21						
NAVICULA LANCEOLATA ?	CEL			X						
NITZSCHIA	CEL			X		0.9	187	4	8.7	364
NITZSCHIA #1	CEL		0.6	21						
OOCYSTIS	CEL						X			X
OSCILLATORIA	FIL						X			
OSCILLATORIA LIMNETICA	FIL		4.7	160		2.8	594	3	8.7	364
PEDIASTRUM BIRADIATUM V. LONGECORNUTUM	COL									X
PEDIASTRUM DUPLEX V.	COL									X
PEDIASTRUM DUPLEX V. GRACILIMUM ?	COL						X			
PEDIASTRUM TETRAS V. TETRAODON	COL						X		1.2	52

LAKE NAME: ATWOOD RESERVOIR CONTINUED
STORET NUMBER: 3928

TAXA	FORM	04 20 73 S	04 20 73 %C	04 20 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
PENNATE DIATOM	CEL		0.2	7						
PENNATE DIATOMS	CEL					1.3	281			
PERIDINIUM	CEL						X			
PHACUS	CEL						X			
PHACUS PYRUM	CEL									X
RAPHIDIOPSIS CURVATA	FIL				2	27.0	5656	5	8.7	364
SCENEDESMUS	COL			X						
SCENEDESMUS ABUNDANS	COL					0.6	125		1.2	52
SCENEDESMUS BICAUDATUS	COL									X
SCENEDESMUS DENTICULATUS	COL								1.2	52
SCENEDESMUS DIMORPHUS	COL						X			X
SCENEDESMUS INTERMEDIUS V. BICAUDATUS	COL		0.2	6						
SCENEDESMUS QUADRICAUDA	COL		0.4	14			X		1.2	52
SCHROEDERIA SETIGERA	CEL					0.1	31			
STEPHANODISCUS	CEL			X			X			
SYNEDRA	CEL	4	8.9	302		0.6	125			
SYNEDRA #1	CEL			X						
TETRAEDRON CAUDATUM V. LONGISPINUM	CEL					0.3	62			
TETRAEDRON MINIMUM	CEL								1.2	52
TETRAEDRON MUTICUM	CEL						X			
TETRASTRUM ELEGANS	COL					0.1	31			
TETRASTRUM HETERACANTHUM	COL		0.4	15		0.4	94			
TRACHELOMONAS PULCHELLA	CEL		0.2	7			X			
TRACHELOMONAS PULCHELLA ?	CEL									X
TRACHELOMONAS URCEOLATA	CEL		0.2	6						
TOTAL				3394			20933			4166

LAKE NAME: BERLIN RESERVOIR
STORET NUMBER: 3929

NYGAARD TROPHIC STATE INDICES

DATE	04 24 73	07 30 73	10 08 73
MYXOPHYCEAN	5.00 E	4.00 E	5.00 E
CHLOROPHYCEAN	7.00 E	16.0 E	18.0 E
EUGLENOPHYTE	0.33 E	0.40 E	0.26 E
DIATOM	0.33 E	0.55 E	0.78 E
COMPOUND	20.0 E	34.0 E	33.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 24 73	07 30 73	10 08 73
GENUS	18	19	15
SPECIES	03	02	02

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 24 73	07 30 73	10 08 73
AVERAGE DIVERSITY	H	3.32	3.61	3.21
NUMBER OF TAXA	S	41.00	52.00	57.00
NUMBER OF SAMPLES COMPOSITED	M	7.00	4.00	5.00
MAXIMUM DIVERSITY	MAXH	5.36	5.70	5.83
TOTAL DIVERSITY	D	20892.76	15046.48	34947.27
TOTAL NUMBER OF INDIVIDUALS/ML	N	6293.00	4168.00	10887.00
EVENESS COMPONENT	J	3.62	0.63	0.55
MEAN NUMBER OF INDIVIDUALS/TAXA	L	153.49	80.15	191.00
NUMBER/ML OF MOST ABUNDANT TAXON	K	1710.00	1169.00	3985.00

LAKE NAME: BERLIN RESERVOIR
STORET NUMBER: 3929

CONTINUED

TAXA	FORM	04 24 73 S	04 24 73 %C	04 24 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 08 73 S	10 08 73 %C	10 08 73 ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL								0.4	42
ACTINASTRUM	CEL									X
ACTINASTRUM HANTZSCHII ?	CEL					3.6	152			
ANKISTRODESMUS	CEL		2.0	129						
ANKISTRODESMUS FALCATUS	CEL			X						X
ASTERICNELLA FORMOSA	CEL						X			
ASTERIONELLA FORMOSA V. GRACILLIMA	CEL		2.0	129						
CENTRIC DIATOMS	CEL				2	28.0	1169			
CERATIUM HIRUNDINELLA F. BRACHYCERAS	CEL						X			
CHLAMYDOMONAS	CEL		2.3	144						
CHLOROGONIUM	CEL								0.7	73
CHLOROPHYTAN COLONY	COL								1.0	104
CLOSTERIUM	CEL			X		0.4	17			X
COELASTRUM MICROPORUM	COL						X			X
COELASTRUM SPHAERICUM	COL					0.8	34			
CRUCIGENIA APICULATA	COL						X			
CRUCIGENIA TETRAPEDIA	COL					0.4	17		0.2	21
CRYPTOMONAS EROSA	CEL			X	4	5.7	237	3	3.0	325
CRYPTOMONAS REFLEXA	CEL			X						
CRYPTOMONAS SPP.	CEL	2	17.4	1092						
CYCLOTELLA	CEL		2.0	129						
CYCLOTELLA MENEGHINIANA	CEL				1	4.1	169		1.0	105
CYCLOTELLA PSEUDOSTELLIGERA	CEL						X			
CYCLOTELLA STELLIGERA	CEL									X
CYMBELLA	CEL									X
DACTYLOCOCCOPSIS	CEL			X						
DACTYLOCOCCOPSIS ?	CEL								1.4	147
DIATOMA	CEL		0.2	14						
DICTYOSPHAERIUM	COL					0.4	17			
DINOBRYON	CEL			X						

LAKE NAME: BERLIN RESERVOIR
STORET NUMBER: 3929

CONTINUED

TAXA	FORM	04 24 73 S	04 24 73 %C	04 24 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 08 73 S	10 08 73 %C	10 08 73 ALGAL UNITS PER ML
EUGLENA #1	CEL				3	1.6	68			
EUGLENA #2	CEL					0.4	17		0.1	10
EUGLENA ACUS	CEL			X						X
EUGLENA ACUS ?	CEL						X			
EUGLENA SPP.	CEL		1.4	86					0.5	52
FLAGELLATE #1	CEL		9.8	618				1	36.6	3985
FLAGELLATE #2	CEL	3	16.9	1063				2	24.3	2642
FLAGELLATE #4	CEL								0.1	10
FLAGELLATES	CEL				5	15.0	627			
FRAGILARIA	CEL		0.5	29			X			
FRAGILARIA INTERMEDIA ?	CEL			X						
GLENODINIUM	CEL		0.5	29					0.1	10
GOMPHONEMA	CEL			X			X			X
GYMNODINIUM	CEL								0.5	52
GYROSIGMA	CEL						X			
KIRCHNERIELLA ?	CEL								2.0	220
LAGERHEIMIA QUADRISETA	CEL			X						
LEPOCINCLIS ?	CEL			X						
LUNATE CELL	CEL						X		1.5	168
LYNGBYA	FIL		0.7	43						
MELOSIRA #4	CEL					2.0	85		0.2	21
MELOSIRA DISTANS	CEL	1	27.2	1710		11.8	491		2.4	262
MELOSIRA GRANULATA	CEL		0.9	58						X
MELOSIRA GRANULATA V. ANGUSTISSIMA	CEL									X
MERIDION CIRCULARE	CEL		0.2	14						
MERISMOPEDIA TENUISSIMA	COL						X	4	7.1	776
MESOSTIGMA	CEL						X		0.2	21
MICROCYSTIS	COL		0.5	29						
MICROCYSTIS INCERTA	COL							5	1.4	147
NAVICULA	CEL		0.5	29						X
NAVICULA #1	CEL						X			X

LAKE NAME: BERLIN RESERVOIR CONTINUED
STORET NUMBER: 3929

TAXA	FORM	04 24 73 S	04 24 73 %C	04 24 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 08 73 S	10 08 73 %C	10 08 73 ALGAL UNITS PER ML
NAVICULA #2	CEL						X			X
NITZSCHIA	CEL	4	6.8	431		2.0	85		0.6	63
NITZSCHIA ACICULARIS	CEL			X						
NITZSCHIA FILIFORMIS	CEL		0.2	14						
OOCYSTIS	CEL						X			X
OSCILLATORIA	FIL						X		0.4	42
OSCILLATORIA LIMNETICA	FIL			X		4.9	203			
PEDIASTRUM DUPLEX V. ?	COL								0.1	10
PEDIASTRUM TETRAS V. TETRAODON	COL								0.1	10
PENNATE DIATOMS	CEL					7.7	322			
PERIDINIUM	CEL					0.4	17			
PHACUS	CEL					0.4	17		0.1	10
PHACUS ACUMINATUS ?	CEL									X
PHACUS CAUDATUS	CEL					0.4	17			X
PHACUS PSEUDONORDSTEDTII ?	CEL						X			
RAPHIDIOPSIS	FIL		0.2	14						
RAPHIDIOPSIS CURVATA	FIL					1.6	68		6.4	692
SCENEDESMUS ABUNDANS	COL					2.8	118		1.0	105
SCENEDESMUS ACUTUS	COL								0.1	10
SCENEDESMUS ARCUATUS	COL						X			
SCENEDESMUS ARCUATUS V. PLATYDISCA	COL						X			
SCENEDESMUS BICAUDATUS	COL								1.4	157
SCENEDESMUS BIJUGA	COL		0.2	14					0.5	52
SCENEDESMUS DIMORPHUS	COL		0.2	14		0.8	34		1.1	115
SCENEDESMUS INTERMEDIUS	COL								0.1	10
SCENEDESMUS QUADRICAUDA	COL								0.1	10
SCHROEDERIA	CEL						X			
SCHROEDERIA SETIGERA	CEL		0.5	29					1.2	136
STEPHANODISCUS	CEL		0.7	43			X		1.2	126

LAKE NAME: BERLIN RESERVOIR
STORET NUMBER: 3929

CONTINUED

TAXA	FORM	04 24 73 S	04 24 73 %C	04 24 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 08 73 S	10 08 73 %C	10 08 73 ALGAL UNITS PER ML
SURIRELLA	CEL		0.5	29			X		0.4	42
SYNEDRA	CEL									
SYNEDRA DELICATISSIMA V. ANGUSTISSIMA ?	CEL					0.8	34			
SYNEDRA ULNA	CEL	5	4.3	273			X			X
TETRAEDRON CAUDATUM V. LONGISPINUM	CEL					1.2	51			
TETRAEDRON MINIMUM	CEL					0.4	17			
TETRAEDRON MINIMUM V. SCROBICULATUM	CEL								0.8	84
TETRAEDRON MUTICUM	CEL					0.4	17			
TETRASTRUM	COL		0.5	29						
TETRASTRUM HETERACANTHUM	COL					0.4	17		0.1	10
TRACHELOMONAS	CEL					0.4	17			
TRACHELOMONAS PULCHELLA	CEL		0.9	58					0.1	10
TRACHELOMONAS VOLVOCINA	CEL					0.8	34			
TOTAL				5293			4168			10887

LAKE NAME: HOLIDAY LAKE
STORET NUMBER: 3930

NYGAARD TROPHIC STATE INDICES

DATE	10 06 73
MYXOPHYCEAN	5.00 E
CHLOROPHYCEAN	2.00 E
EUGLENOPHYTE	0.29 E
DIATOM	2.00 E
COMPOUND	11.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	10 06 73
GENUS	02
SPECIES	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		10 06 73
AVERAGE DIVERSITY	H	1.92
NUMBER OF TAXA	S	15.00
NUMBER OF SAMPLES COMPOSITED	M	0.00
MAXIMUM DIVERSITY	MAXH	3.91
TOTAL DIVERSITY	D	2601.60
TOTAL NUMBER OF INDIVIDUALS/ML	N	1355.00
EVENESS COMPONENT	J	1.49
MEAN NUMBER OF INDIVIDUALS/TAXA	L	90.33
NUMBER/ML OF MOST ABUNDANT TAXON	K	827.00

LAKE NAME: HOLIDAY LAKE CONTINUED
STORET NUMBER: 3930

10 06 73

TAXA	FORM	S	%C	ALGAL UNITS PER ML
ANABAENA	FIL			X
APHANIZOMENON FLOS-AQUAE	FIL			X
ASTERIONELLA FORMOSA V. GRACILLIMA	CEL		1.7	23
CHLOROPHYTAN COCCOID CELL	CEL		1.7	23
CLOSTERIUM	CEL			X
COELOSPHAERIUM NAEGELIANUM	COL	1	61.0	827
CRYPTOMONAS EROSA	CEL	4	3.4	46
CYANOPHYTAN FILAMENT	FIL			X
DICTYOSPHAERIUM	COL			X
EUGLENA GRACILIS	CEL			X
MELOSIRA DISTANS	CEL	5	5.1	69
MELOSIRA GRANULATA	CEL	2	6.8	92
MICROCYSTIS INCERTA	COL	3	16.9	229
SCHROEDERIA SETIGERA	CEL		1.7	23
TRACHELOMONAS OBLONGA	CEL		1.7	23
TOTAL				1355

LAKE NAME: O'SHAUGNESSY RES. T
STORET NUMBER: 3931

NYGAARD TROPHIC STATE INDICES

DATE	04 26 73	08 02 73	10 10 73
MYXOPHYCEAN	2/0 E	2.00 E	02/0 E
CHLOROPHYCEAN	1/0 E	2.00 E	05/0 E
EUGLENOPHYTE	0/3 ?	0.75 E	1.29 E
DIATOM	0.77 E	0.50 E	0.71 E
COMPOUND	4/0 E	9.00 E	21/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 26 73	08 02 73	10 10 73
GENUS	02	02	15
SPECIES	0	00	01

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 26 73	08 02 73	10 10 73
AVERAGE DIVERSITY	H	2.36	2.61	3.10
NUMBER OF TAXA	S	21.00	19.00	32.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.39	4.17	5.00
TOTAL DIVERSITY	D	3853.88	1524.24	7765.50
TOTAL NUMBER OF INDIVIDUALS/ML	N	1633.00	584.00	2505.00
EVENESS COMPONENT	J	0.54	0.63	0.62
MEAN NUMBER OF INDIVIDUALS/TAXA	L	77.76	32.44	78.28
NUMBER/ML OF MOST ABUNDANT TAXON	K	563.00	195.00	866.00

LAKE NAME: O'SHAUGNESSY RES. T CONTINUED
STORET NUMBER: 3931

TAXA	FORM	04 26 73 S	04 26 73 %C	04 26 73 ALGAL UNITS PER ML	08 02 73 S	08 02 73 %C	08 02 73 ALGAL UNITS PER ML	10 10 73 S	10 10 73 %C	10 10 73 ALGAL UNITS PER ML
ACHNANTHES	CEL									X
ACHNANTHES LANCEOLATA V. CUBIA	CEL			X						
ACTINASTRUM HANTZSCHII	CEL						X			
ANABAENA	FIL			X						
ANKISTRODESMUS	CEL								0.9	22
APHANIZOMENON FLOS-AQUAE	FIL					3.8	22		1	
ASTERIONELLA FORMOSA	CEL			X						
CHLAMYDOMONAS	CEL						X		0.9	22
CHLOROPHYTAN CELL	CEL								0.9	22
CLOSTERIUM	CEL						X			
COCCONEIS PLACENTULA V. EUGLYPTA	CEL			X						X
CRYPTOMONAS	CEL				1	33.4	195			
CRYPTOMONAS EROSA	CEL	1	28.9	472						
CRYPTOMONAS OVATA	CEL							5	5.3	133
CRYPTOMONAS REFLEXA	CEL		1.1	18						
CYCLOTELLA MENEGHINIANA	CEL								1.8	44
EUGLENA #1	CEL							2	23.9	599
EUGLENA ACUS	CEL						X		0.9	22
EUGLENA GRACILIS	CEL							1	34.6	866
EUGLENA OXYURIS	CEL									X
FLAGELLATE #1	CEL	2	34.5	563	5	7.4	43		6.2	155
FLAGELLATES	CEL	4	8.9	145						
GOMPHONEMA OLIVACEUM	CEL			X						
GYROSIGMA	CEL			X						
GYROSIGMA ?	CEL						X			
LEPOCINCLIS	CEL							4	4.4	111
MELOSIRA	CEL									X
MELOSIRA DISTANS	CEL								1.8	44
MELOSIRA GRANULATA V. ANGUSTISSIMA	CEL				4	7.4	43			

LAKE NAME: O'SHAUGNESSY RES. T CONTINUED
STORET NUMBER: 3931

TAXA	FORM	04 26 73 S	%C	ALGAL UNITS PER ML	08 02 73 S	%C	ALGAL UNITS PER ML	10 10 73 S	%C	ALGAL UNITS PER ML
MELOSIRA VARIANS	CEL									X
MERISMOPEDIA TENUISSIMA	COL									X
NAVICULA #1	CEL			X					0.9	22
NAVICULA #2	CEL			X						
NITZSCHIA #1	CEL		1.1	18					2.7	67
NITZSCHIA CLOSTERIUM ?	CEL								1.8	44
OSCILLATORIA	FIL						X			
OSCILLATORIA LIMNETICA	FIL		2.2	36						X
PEDIASTRUM SIMPLEX V. DUODENARIUM	COL									X
PENNATE DIATOM	CEL									X
PERIDINIUM	CEL						X			
PHACUS CAUDATUS	CEL								1.8	44
PHACUS CURVICAUDA	CEL									X
PHACUS PYRUM	CEL								0.9	22
RHICOSPHENIA CURVATA	CEL						X			X
SCENEDESMUS DIMORPHUS	COL									X
SCENEDESMUS INTERMEDIUS	COL								1.8	44
SCENEDESMUS OPOLIENSIS	COL								0.9	22
SCENEDESMUS QUADRICAUDA	COL		1.1	18		7.4	43			
STEPHANODISCUS	CEL	3	16.7	272	2	22.3	130	3	7.1	178
SURIRELLA	CEL			X						
SURIRELLA OVATA	CEL			X						
SYNEDRA	CEL						X			
SYNEDRA #1	CEL	5	5.6	91	3	14.7	86			
SYNEDRA DELICATISSIMA	CEL			X						
SYNEDRA ULNA	CEL			X						
TRACHELOMONAS PULCHELLA	CEL						X			
TRACHELOMONAS URCEOLATA	CEL					3.8	22		0.9	22
TOTAL				1633			584			2505

LAKE NAME: ROCKY FORK LAKE
STORET NUMBER: 3932

NYGAARD TROPHIC STATE INDICES

DATE	04 28 73	08 01 73	10 09 73
MYXOPHYCEAN	01/0 E	4.00 E	10.0 E
CHLOROPHYCEAN	01/0 E	3.00 E	14.0 E
EUGLENOPHYTE	1.50 E	0.43 E	0.21 E
DIATOM	0.31 E	0.75 E	0.60 E
COMPOUND	09/0 E	13.0 E	32.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 28 73	08 01 73	10 09 73
GENUS	18	08	26
SPECIES	01	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 28 73	08 01 73	10 09 73
AVERAGE DIVERSITY	H	1.78	2.22	3.47
NUMBER OF TAXA	S	26.00	27.00	45.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.70	4.75	5.49
TOTAL DIVERSITY	D	63935.82	13615.26	102663.42
TOTAL NUMBER OF INDIVIDUALS/ML	N	35919.00	6133.00	29586.00
EVENESS COMPONENT	J	0.38	0.47	0.63
MEAN NUMBER OF INDIVIDUALS/TAXA	L	1381.50	227.15	657.47
NUMBER/ML OF MOST ABUNDANT TAXON	K	21399.00	3639.00	7381.00

LAKE NAME: ROCKY FORK LAKE CONTINUED
STORET NUMBER: 3932

TAXA	FORM	04 28 73 S	04 28 73 %C	04 28 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
ACHNANTHES MICROCEPHALA	CEL								0.4	119
ANABAENA	FIL						X			
ASTERIONELLA FORMOSA	CEL			X						
CENTRIC DIATOM	CEL				4	4.6	280			
CERATIUM HIRUNDINELLA	CEL						X			
CHLAMYDOMONAS	CEL								0.4	119
COCCOID CELL	CEL					0.4	23			
COCCONEIS	CEL			X						
COELASTRUM CAMBRICUM	COL								1.2	357
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL									X
COSMARIUM	CEL					0.4	23		0.2	60
CRUCIGENIA	COL								0.2	60
CRUCIGENIA TETRAS	COL									X
CRYPTOMONAS	CEL								3.0	893
CRYPTOMONAS EROSA	CEL	3	3.7	1320	3	7.6	466			X
CRYPTOMONAS EROSA V. REFLEXA	CEL						X			
CRYPTOMONAS REFLEXA	CEL		0.4	139						
CYMBELLA	CEL			X			X			
DACTYLOCOCCOPSIS IRREGULARIS ?	CEL				2	11.0	676			
DICTYOSPHAERIUM	COL					1.5	93			
EUGLENA	CEL								1.6	477
EUGLENA ACUS	CEL					0.4	23			X
EUGLENA GRACILIS	CEL		1.0	347			X			
FLAGELLATE #1	CEL	5	1.7	625			X		3.2	952
FLAGELLATE #2	CEL								2.4	714
FLAGELLATE #4	CEL									X
GOMPHONEMA CLIVACEUM	CEL			X						
GYMNODINIUM ORDINATUM	CEL			X		1.1	70			X
KIRCHNERIELLA	CEL								2.0	595
LAGERHEIMIA QUADRISETA	CEL								0.4	119

LAKE NAME: ROCKY FORK LAKE
STORET NUMBER: 3932

CONTINUED

TAXA	FORM	04 28 73 S	04 28 73 %C	04 28 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
LYNGBYA	FIL									X
LYNGBYA LAGERHEIMII	FIL							2	24.9	7381
MALLOMONAS ACAROIDES	CEL					4.2	257			
MELOSIRA #1	CEL	4	8.5	3057						
MELOSIRA #4	CEL		0.4	139		0.8	47			
MELOSIRA DISTANS	CEL	1	59.6	21399		1.5	93		1.6	476
MELOSIRA GRANULATA	CEL									X
MERISMOPEDIA	COL									X
MERISMOPEDIA GLAUCA	COL							5	4.8	1429
MERISMOPEDIA TENUISSIMA	COL				5	4.6	280		2.0	595
MICROCYSTIS INCERTA	COL								3.2	952
NAVICULA	CEL								0.6	179
NAVICULA #1	CEL									X
NAVICULA #2	CEL			X						
NAVICULA #3	CEL			X						
NAVICULA #4	CEL			X						
NAVICULA HUNGARICA	CEL			X						
NITZSCHIA	CEL							4	11.9	3512
NITZSCHIA #1	CEL			X			X			
NITZSCHIA #2	CEL		0.4	139						
NITZSCHIA #3	CEL			X						
NITZSCHIA PALEA	CEL									X
OSCILLATORIA	FIL							1	21.1	6250
OSCILLATORIA #2	FIL									X
OSCILLATORIA LIMNETICA	FIL		0.4	139	1	59.3	3639			X
PERIDINIUM INCONSPICUUM	CEL						X			
PERIDINIUM QUADRIDENS	CEL						X			
PHACUS ACUMINATUS	CEL									X
PHACUS CAUDATUS	CEL						X			
PHACUS PSEUDONORDSTEDTII	CEL									X
PHACUS PYRUM	CEL		0.2	69						
RAPHIDIOPSIS CURVATA	FIL							3	9.9	2917

LAKE NAME: ROCKY FORK LAKE
STORET NUMBER: 3932

CONTINUED

TAXA	FORM	04 28 73 S	04 28 73 %C	04 28 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
SCENEDESMUS ACUMINATUS	COL			X						
SCENEDESMUS BICAUDATUS	COL								0.2	60
SCENEDESMUS DIMORPHUS	COL						X		1.2	357
SCENEDESMUS ECORNIS V. DISCIFORMIS	COL									X
SCENEDESMUS QUADRICAUDA	COL									X
SCHROEDERIA SETIGERA	CEL								2.0	595
STEPHANODISCUS	CEL	2	23.0	8268						X
SURIRELLA OVATA	CEL			X						
SYNEDRA	CEL					2.7	163			
SYNEDRA #1	CEL		0.4	139			X			
TETRAEDRON MINIMUM	CEL						X			
TETRAEDRON MINIMUM V. SCROBICULATUM	COL								0.6	179
TETRAEDRON MUTICUM	COL								0.6	179
TETRASTRUM	COL								0.2	60
TRACHELOMONAS PULCHELLA	CEL		0.4	139						X
TOTAL				35919			6133			29586

LAKE NAME: SHAWNEE LAKE
STORET NUMBER: 3933

NYGAARD TROPHIC STATE INDICES

DATE	04 28 73	08 01 73	10 09 73
MYXOPHYCEAN	2.00 E	10.0 E	2.00 E
CHLOROPHYCEAN	5.00 E	6.00 E	3.50 E
EUGLENOPHYTE	0.29 E	0.31 E	0.27 E
DIATOM	0.27 ?	0.43 E	0.67 E
COMPOUND	12.0 E	24.0 E	9.00 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 28 73	08 01 73	10 09 73
GENUS	07	21	19
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 28 73	08 01 73	10 09 73
AVERAGE DIVERSITY	H	0.99	2.12	0.96
NUMBER OF TAXA	S	29.00	39.00	29.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	4.86	5.29	4.86
TOTAL DIVERSITY	D	57364.56	91062.48	74502.72
TOTAL NUMBER OF INDIVIDUALS/ML	N	57944.00	42954.00	77607.00
EVENESS COMPONENT	J	0.20	0.40	0.20
MEAN NUMBER OF INDIVIDUALS/TAXA	L	1998.07	1101.38	2676.10
NUMBER/ML OF MOST ABUNDANT TAXON	K	45654.00	21734.00	66849.00

LAKE NAME: SHAWNEE LAKE
STORET NUMBER: 3933

CONTINUED

TAXA	FORM	04 28 73 S	04 28 73 %C	04 28 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA V. DUBIA	CEL						X			
ACHNANTHES MICROCEPHALA	CEL					0.2	93	5	0.9	726
ANABAENA	FIL				5	1.3	556			
ANKISTRODESMUS ?	CEL		0.2	92						
ANKISTRODESMUS FALCATUS	CEL			X						
APHANIZOMENON FLOS-AQUAE	FIL					0.1	46			
CARTERIA	CEL						X			
CENTRIC DIATOMS	CEL								0.4	330
CERATIUM HIRUNDINELLA F. BRACHYCERAS	CEL						X			
CHLAMYDOMONAS	CEL						X			
CLOSTERIUM	CEL			X		0.2	93		0.1	66
COCCONEIS	CEL			X						
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL						X			
COELASTRUM SPHAERICUM	COL									X
COSMARIUM	CEL								0.1	66
CRYPTOMONAS EROSA	CEL	4	1.3	739						
CRYPTOMONAS REFLEXA	CEL			X						
CYCLOTELLA MENEGHINIANA	CEL						X			X
CYCLOTELLA MICHIGANIANA	CEL			X						
CYCLOTELLA STELLIGERA	CEL						X			X
CYMATOPLEURA SOLEA	CEL			X						
CYMBELLA	CEL			X						
DACTYLOCOCCOPSIS IRREGULARIS	CEL	3	2.7	1571						
DIATOMA VULGARE	CEL			X						
DICTYOSPHAERIUM PULCHELLUM	COL									X
EUGLENA	CEL			X						
EUGLENA #1	CEL					0.1	46			
EUGLENA #2	CEL					0.3	139			
EUGLENA #3	CEL					0.2	93			X

LAKE NAME: SHAWNEE LAKE
STORET NUMBER: 3933

CONTINUED

TAXA	FORM	04 28 73 S	04 28 73 %C	04 28 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
FLAGELLATE #1	CEL	2	16.4	9519						
FLAGELLATES	CEL				4	4.2	1807	4	2.1	1650
GOMPHOSPHAERIA LACUSTRIS	COL			.		0.4	185			
GYMNODINIUM ORDINATUM	CEL	5	0.3	185			X		0.3	264
LYNGBYA LIMNETICA	FIL						X			
MALLOMONAS ACARCIDES	CEL			X						
MELOSIRA GRANULATA	CEL			X						
MERISMOPEDIA TENUISSIMA	COL					0.5	231		0.3	198
MESOSTIGMA	CEL					0.1	46		0.1	66
MICROCYSTIS AERUGINOSA	COL			X						
MICROCYSTIS INCERTA	COL					1.6	695		0.1	66
NAVICULA	CEL						X		0.1	66
NAVICULA #1	CEL			X						
NITZSCHIA	CEL					1.9	834			
NITZSCHIA #1	CEL								0.4	330
NITZSCHIA #2	CEL						X			
NITZSCHIA #3	CEL		0.2	92						
NITZSCHIA #4	CEL			X						
NITZSCHIA ACICULARIS	CEL									X
OOCYSTIS	CEL									X
OSCILLATORIA	FIL						X			
OSCILLATORIA LIMNETICA	FIL				1	50.6	21734	3	3.8	2970
PEDIASTRUM DUPLEX	COL			X						
PEDIASTRUM SIMPLEX V. DUODENARIUM	COL						X			
PENNATE DIATOM	CEL			X						
PERIDINIUM QUADRIDENS	CEL						X			
PHACUS	CEL					0.1	46			
RAPHIDIOPSIS CURVATA	FIL				2	28.9	12419	1	96.1	66840
SCENEDESMUS	COL			X						
SCENEDESMUS ABUNDANS	COL					0.5	231			X
SCENEDESMUS DIMORPHUS	COL					0.1	46		0.3	198

LAKE NAME: SHAWNEE LAKE
STORET NUMBER: 3933

CONTINUED

TAXA	FORM	04 28 73 S	04 28 73 %C	04 28 73 ALGAL UNITS PER ML	08 01 73 S	08 01 73 %C	08 01 73 ALGAL UNITS PER ML	10 09 73 S	10 09 73 %C	10 09 73 ALGAL UNITS PER ML
SCENEDESMUS INTERMEDIUS	COL								0.1	66
SCENEDESMUS OPOLIENSIS	COL					0.1	46			
SCENEDESMUS QUADRICAUDA	COL			X						
SPIRULINA ?	CEL						X			
STEPHANODISCUS	CEL	1	78.8	45654		1.9	834			X
SURIRELLA	CEL			X						
SYNEDRA	CEL				3	6.4	2734	2	4.6	3564
SYNEDRA #1	CEL			X			X			X
SYNEDRA #2	CEL		0.2	92						
TETRAEDRON MINIMUM V. SCROBICULATUM	CEL								0.2	132
TETRAEDRON MUTICUM	CEL						X			
TRACHELOMONAS OBLONGA ?	CEL									X
TRACHELOMONAS PULCHELLA	CEL						X			X
TRACHELOMONAS URCEOLATA	CEL			X						
TOTAL				57944			42954			77607

LAKE NAME: TAPPAN LAKE
STORET NUMBER: 3934

NYGAARD TROPHIC STATE INDICES

DATE	04 21 73	07 30 73	10 06 73
MYXOPHYCEAN	02/0 E	03/0 E	05/0 E
CHLOROPHYCEAN	03/0 E	06/0 E	06/0 E
EUGLENOPHYTE	0.60 E	0.11 ?	0.09 ?
DIATOM	0.67 E	0.50 E	0.33 E
COMPOUND	10/0 E	11/0 E	14/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 21 73	07 30 73	10 06 73
GENUS	17	11	21
SPECIES	01	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 21 73	07 30 73	10 06 73
AVERAGE DIVERSITY	H	2.22	0.97	2.75
NUMBER OF TAXA	S	17.00	17.00	27.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.09	4.09	4.75
TOTAL DIVERSITY	D	37626.78	316498.39	111980.00
TOTAL NUMBER OF INDIVIDUALS/ML	N	16949.00	326287.00	40720.00
EVENESS COMPONENT	J	0.54	0.24	0.58
MEAN NUMBER OF INDIVIDUALS/TAXA	L	997.00	19193.35	1508.15
NUMBER/ML OF MOST ABUNDANT TAXON	K	8327.00	217182.00	16750.00

LAKE NAME: TAPPAN LAKE
STORET NUMBER: 3934

CONTINUED

TAXA	FORM	04 21 73 S	04 21 73 %C	04 21 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 06 73 S	10 06 73 %C	10 06 73 ALGAL UNITS PER ML
ACTINASTRUM HANTZSCHII	CEL									X
ANABAENA	FIL					0.0	154			
ANKISTRODESMUS FALCATUS	CEL						X			
CENTRIC DIATOM	CEL	5	4.0	686						
CHLAMYDOMONAS	CEL								3.2	1302
CHLOROGONIUM	CEL								0.6	237
CHRYSOPHYTAN CYST	CEL					0.0	102			
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL						X			
COELASTRUM MICROPORUM	COL									X
CRYPTOMONAS	CEL								1.9	769
CRYPTOMONAS EROSA	CEL	4	7.2	1225		0.0	77			X
CRYPTOMONAS REFLEXA	CEL			X						
DACTYLOCOCCOPSIS IRREGULARIS	CEL		1.4	245						
EUGLENA	CEL					0.0	26			
EUGLENA GRACILIS	CEL		0.6	98						
FLAGELLATE #1	CEL	2	17.6	2988				5	5.8	2367
FLAGELLATE #2	CEL							4	4.7	1894
GOLENKINIA RADIATA	CEL		0.3	49						
GYMNODINIUM ORDINATUM	CEL								0.1	59
MALLOMONAS ACARCIDES	CEL		0.3	49	5	0.0	128			
MELOSIRA DISTANS	CEL		2.0	343					0.6	237
MELOSIRA GRANULATA ?	CEL									X
MERISMOPEDIA GLAUCA	COL								3.8	1539
MERISMOPEDIA TENUISSIMA	COL								4.5	1835
MICROCYSTIS INCERTA	COL								1.2	474
NAVICULA	CEL									X
NAVICULA #1	CEL		0.3	49					0.9	355
NITZSCHIA #1	CEL							3	8.1	3314
NITZSCHIA #2	CEL									X
NITZSCHIA PALEA	CEL									X
OOCYSTIS GIGAS	CEL									X

LAKE NAME: TAPPAN LAKE
STORET NUMBER: 3934

CONTINUED

TAXA	FORM	04 21 73 S	04 21 73 %C	04 21 73 ALGAL UNITS PER ML	07 30 73 S	07 30 73 %C	07 30 73 ALGAL UNITS PER ML	10 06 73 S	10 06 73 %C	10 06 73 ALGAL UNITS PER ML
OSCILLATORIA LIMNETICA	FIL	1	49.1	8327	2	66.6	217182	1	41.1	16750
PERIDINIUM QUADRIDENS	CEL						X			
PHACUS PSEUDONORDSTEDTII ?	CEL			X						
PHACUS PYRUM	CEL			X						
RAPHIDIOPSIS CURVATA	FIL				1	33.0	107567	2	21.8	8878
RHICOSPHENIA CURVATA	CEL									X
SCENEDESMUS ABUNDANS	COL								0.9	355
SCENEDESMUS BIJUGA	COL		0.3	49			X			
SCENEDESMUS DIMORPHUS	COL		0.6	98		0.0	51		0.9	355
SCENEDESMUS QUADRICAUDA	COL					0.0	26			
SCHROEDERIA SETIGERA	CEL					0.0	26			X
STEPHANODISCUS	CEL				3	0.2	589			
SYNEDRA	CEL				4	0.1	359			
SYNEDRA #1	CEL	3	16.2	2743						
SYNEDRA #2	CEL						X			
SYNEDRA DELICATISSIMA	CEL			X						
TRACHELOMONAS	CEL									X
TOTAL				16949			326287			40720